

UCF Courses and Descriptions

Finding a Course in this List: The UCF courses in this section are listed alphabetically by prefix. Consult the "Common Course Numbering System" section of the *Undergraduate Catalog* for additional information.

Availability of Courses: The University does not offer all of the courses listed in this Undergraduate Catalog each academic year, academic semester, or term. Consult the online Class Schedule at <https://my.ucf.edu> for those courses offered each semester/term. At the end of each course description is information on the planned scheduling of the course, (Fall, Spring or Occasional-department scheduled, Odd-Even based on year of term), and any applicable Material and Supply (M&S) Fee.

ACG 2021 BA-ACCT 3(3,0)
Principles of Financial Accounting: PR: MAC 1105C with a "C" (2.0) or better. Nature of accounting, financial statements, the accounting cycle, assets, current liabilities, long-term debt, and owner's equity; accounting for proprietorships and corporations. *Fall, Spring.*

ACG 2021H BA-ACCT 3(3,0)
Honors Principles of Financial Accounting: PR: MAC 1105C with a "C" (2.0) or better, and consent of Honors. Same as ACG 2021 with honors level content. *Occasional.*

ACG 2071 BA-ACCT 3(3,0)
Principles of Managerial Accounting: PR: ACG 2021 with a "C" (2.0) or better. The purpose of this class is to thoroughly familiarize the student with the various uses of accounting information for planning and control. *Fall, Spring.*

ACG 3082 BA-ACCT 3(3,0)
Accounting For Non-Business Majors: PR: Junior Standing. Accounting and reporting from an investment and managerial decision making perspective. *Occasional.*

ACG 3131 BA-ACCT 3(3,0)
Intermediate Financial Accounting I: PR: Pre-Accounting or Pre-Finance major or Accounting minor & ACG 2021 & ACG 2071 each with a grade of "C" (2.0) or better. Technical knowledge about accounting measurement and disclosure, as well as how financial statements are analyzed and interpreted by external users. *Fall, Spring.*

ACG 3141 BA-ACCT 3(3,0)
Intermediate Financial Accounting II: PR: Accounting major or minor, ACG 3131 with a grade of "C" (2.0) or better. Accounting theory and practice related to preparation, and interpretation of external financial statements. *Fall, Spring.*

ACG 3173 BA-ACCT 3(3,0)
Accounting for Decision-Makers: PR: Pre-Business (except Pre-Accounting) major & ACG 2021 & ACG 2071 each with a grade of "C" (2.0) or better. Explores the use of financial statements and managerial accounting in support of business decisions. The tax environment on businesses is also explored. *Fall, Spring.*

ACG 3361 BA-ACCT 3(3,0)
Cost Accounting I: PR: Junior standing, Accounting major or minor, and MAC 1105C, ECO 2013, ECO 2023, ACG 2071, each with a grade of "C" (2.0) or better. Theory and practice of using accounting information for managerial planning, and control as well as in costing, and pricing decisions. *Fall, Spring.*

ACG 3501 BA-ACCT 3(3,0)
Financial Accounting for Governmental and Nonprofit Organizations: PR: Accounting major or minor, and a grade of "C" (2.0) or better in ACG 3131. Application of financial accounting for governmental and nonprofit organizations. *Fall, Spring.*

ACG 4252 BA-ACCT 3(3,0)
International Financial and Managerial Accounting: PR: Accounting major or minor, ACG 2021, ACG 2071, each with a "C" (2.0) or better. An examination of environmental factors affecting international accounting standards and multinational corporate operations. Not open to accounting majors. *Occasional.*

ACG 4284 BA-ACCT 3(3,0)
Financial Reporting for Consolidated Entities: PR: ACG 3141 with a "C" (2.0) or better. Financial reporting practices and issues related to consolidated entities including translation of foreign financial statements. *Occasional.*

ACG 4401C BA-ACCT 3(3,1)
Accounting Information Systems: PR: Accounting major or minor, ACG 3131 and CGS 2100C, each with a grade of "C" (2.0) or better. Manual and computer-based accounting information systems. *Fall, Spring.*

ACG 4651 BA-ACCT 3(3,0)
Auditing: PR: Accounting major or minor, ACG 3141 and ACG 4401C, each with a grade of "C" (2.0) or better. The standards, practices, and procedures followed in the audit function. *Fall, Spring.*

ACG 4671 BA-ACCT 3(3,0)
Internal Auditing: PR: Accounting major or minor, ACG 3131 or ACG 3361, with a "C" (2.0) or better. Theory and practice of internal auditing and the use of internal auditing in organizational control. *Fall, Spring.*

ACG 4803 BA-ACCT 3(3,0)
Advanced Issues in Financial Accounting: PR: Accounting major and "C" (2.0) or better in ACG 3141, ACG 3361, and ACG 3501. Advanced issues in financial accounting, including consolidations and IFRS. *Fall, Spring.*

ADE 4382 ED-CFCS 3(3,0)
Teaching Adult Learners in Technical Programs: PR: ECT 3365 or C.I. Planning for and teaching of adult learners in formal & informal technical settings. *Fall.*

ADV 3008 COS-COMM 3(3,0)
Principles of Advertising: PR: SPC 1608, or SPC 1603C, or COM 1000. Overview of the field of advertising; purposes, techniques, the role of agencies, advertisers and the media. *Fall, Spring.*

ADV 3912 COS-COMM 3(3,0)
Collaborative Experiential Research Practicum: PR: Either SPC 1608, SPC 1603C or COM 1000, and C.I. Students will work as research assistants in a team, under faculty supervision, and learn first-hand the process of conducting communication/social scientific research. May be used in the degree program a maximum of 2 times. *Occasional.*

ADV 4101 COS-COMM 3(3,0)
Advertising Copywriting: PR: Ad-PR majors only and ADV 3008 and PUR 4000. Advertising copywriting teaches the development of creative strategies for advertising and emphasizes writing for various ad media. *Fall, Spring.*

ADV 4103 COS-COMM 3(3,0)
Radio-Television Advertising: PR: R-TV or Ad-PR Majors or Mass Comm. minors only and ADV 3008 or C.I. Radio and television advertising sales, including interpretation of rate structures, program audiences, and creative approaches to sponsor needs. *Fall, Spring.*

ADV 4300 COS-COMM 3(3,0)
Advertising Media Planning: PR: ADV 3008 and Ad-PR major. Media planning and buying, including basic media terms, calculations, and resources. *Fall.*

AFA 3006 CAH-AS 3(3,0)
The African Diaspora: Theories and Movements: PR: ENC 1102. Provides a broad understanding of the cultural, social, and political experiences that define the African Diaspora. *Fall.*

AFA 3102 CAH-AS 3(3,0)
Introduction to Africana Studies: A Multidisciplinary Approach: PR: ENC 1102. Key issues and methodologies in Africana Studies featuring presentations by representative faculty from various disciplines. *Fall, Spring.*

AFA 3104 CAH-AS 3(3,0)
The Black Intellectual Experience: PR: ENC 1102. Interdisciplinary examination of major texts, theories, practices and philosophic foundations in Black intellectual and cultural history. *Fall, Spring.*

AFA 3244 CAH-AS 3(3,0)
Africana Social & Cultural Movements: PR: ENC 1102. Analytical look at the role cultural arts played in the emancipation and civil rights efforts that followed the trans-Atlantic slave trade. *Occasional.*

AFA 3300 CAH-AS 3(3,0)
African American and Caribbean Music: PR: ENC 1102. Explore music written and made popular by African Americans and Caribbean artists. *Fall, Spring.*

AFA 3371 CAH-AS 3(3,0)
Evolution of Hip Hop: PR: ENC 1102 or C.I. An historical analysis of Hip Hop from its African roots to the present with emphasis on the socio-political implications of this phenomenon. *Occasional.*

AFA 3371H CAH-AS 3(3,0)
Honors Evolution of Hip Hop: PR: Consent of Honors. Historical analysis of Hip Hop from its African roots to the present with emphasis on the socio-political implications of this phenomenon. With Honors content. *Occasional.*

AFA 3420 CAH-AS 3(3,0)
Malcolm X, Black Nationalism, and Internationalism: PR: ENC 1102 or C.I. Comprehensive analysis of the social/political thought of Malcolm X and its impact on Africana political struggles. *Fall.*

AFA 3850 CAH-AS 3(3,0)
Researching Africana Heritage and Life: PR: ENC 1102 or C.I. Principles and processes of researching contributions of traditional Africana people and communities. *Occasional.*

AFA 3955 CAH-AS 6(6,0)
Study Abroad in Eastern Caribbean: PR: ENC 1102 or C.I. Interdisciplinary study abroad program focuses on the arts and humanities of African diasporic cultures in the Eastern Caribbean. *Occasional.*

AFA 4105 CAH-AS 3(3,0)
Documenting Africana Heritage and Life: PR: ENC 1102 or C.I. Principles and research in the process of documenting Africana heritage and life. *Occasional.*

AFA 4242 CAH-AS 3(3,0)
Contemporary Issues in Africana Studies: PR: ENC 1102 or C.I. Contemporary topics, emerging crises, shifting trends, and developments in the Africana Diaspora. *Spring.*

AFH 3100 CAH-HIST 3(3,0)
African History to 1870: PR: C.I. Sub-Saharan African institutions and peoples from the earliest time until 1870. *Occasional.*

AFH 3200 CAH-HIST 3(3,0)
African History Since 1870: PR: C.I. Sub-Saharan African history from 1870 to the present. *Occasional.*

UCF Courses and Descriptions

AFH 5259 CAH-HIST 3(3,0)
Colloquium in African History: PR: Graduate standing or C.I. Readings on selected topics in African History. May be used in the degree program a maximum of 3 times. *Odd Fall.*

AFH 5806 CAH-HIST 3(3,0)
The Historiography of Slavery in Africa: PR: Graduate standing or senior standing or C.I. Course covers the central issues and controversies in the historiography of slavery in Africa. *Occasional.*

AFR 1101 ECS-AFROTC 1(1,0)
The Air Force Today I: PR: Consent of Air Force ROTC. History, mission, organization, and doctrine of the United States Air Force and a study of U.S. Strategic Offensive and Defensive Forces. Hands on training required in accordance with the AFROTC program. *Fall.*

AFR 1111 ECS-AFROTC 1(1,0)
The Air Force Today II: PR: Consent of Air Force ROTC. A brief review of the Army, Navy, and Marine forces. An introduction to special operations and counterinsurgency. *Spring.*

AFR 2130 ECS-AFROTC 1(1,0)
The Development of Air Power I: PR: Consent of Air Force ROTC. A study of the development of air power from experiments by 18th-century balloonists to the achievement of combat air power capabilities during World War II. Hands-on training required in accordance with the AFROTC program. *Fall.*

AFR 2131 ECS-AFROTC 1(1,0)
The Development of Air Power II: PR: Consent of Air Force ROTC. A study of the development of aerospace capabilities since World War II, highlighting technological advancements and the role of aerospace power in the contemporary world. *Spring.*

AFR 3220 ECS-AFROTC 3(3,0)
Air Force Leadership and Management I: PR: Consent of Air Force ROTC. An introductory study of Air Force management fundamentals, communications skills, and basic leadership styles. Hands-on training required in accordance with the AFROTC program. *Fall.*

AFR 3230 ECS-AFROTC 3(3,0)
Air Force Evaluation and Management II: PR: AFR 3220 and Consent of Air Force ROTC. A concluding study of Air Force management fundamentals, including performance evaluation skills. *Spring.*

AFR 4201 ECS-AFROTC 3(3,0)
National Security Affairs and Prep for Active Duty I: PR: AFR 3220 and Consent of Air Force ROTC. Examination of the military and its role in American society. A study of the framework and formation of defense strategy. Hands-on training required in accordance with the AFROTC program. *Fall.*

AFR 4210 ECS-AFROTC 3(3,0)
National Security Affairs and Prep for Active Duty II: PR: AFR 4201 and Consent of Air Force ROTC. An examination of defense implementation and its impact on the decision-making process. A study of the military justice system and its protection of individual rights. *Spring.*

AMH 1070 CAH-HIST 3(3,0)
Florida: People, Places, and History: An introduction to Florida, focusing on the state's History and its place in the world. *Fall, Spring.*

AMH 2010 CAH-HIST 3(3,0)
U.S. History: 1492-1877: Survey of U.S. History from 1492-1877. *Fall, Spring.*

AMH 2010H CAH-HIST 3(3,0)
Honors U.S. History: 1492-1877: PR: Consent of Honors. Survey of U.S. History from 1492-1877. *Fall, Spring.*

AMH 2020 CAH-HIST 3(3,0)
U.S. History: 1877-Present: Survey of U.S. History from 1877 to the present. May be taken before AMH 2010. *Fall, Spring.*

AMH 2020H CAH-HIST 3(3,0)
Honors U.S. History: 1877-Present: PR: Permission of Honors and AMH 2010 or C.I. Survey of U.S. History from 1877 to the present. May be taken before AMH 2010. Honors-level content. *Fall, Spring.*

AMH 3370 CAH-HIST 3(3,0)
American Economic History: PR: AMH 2010 and AMH 2020, or C.I. An introduction to the economic development of the U.S., with emphasis on agriculture, labor, industrialization, transportation, and banking. *Occasional.*

AMH 3402 CAH-HIST 3(3,0)
History of the South to 1865: PR: AMH 2010 or AMH 2020 or C.I. Development of the southern colonies, beginning sectionalism, the cotton economy, and slavery, Calhoun's constitutional theories, secession, Civil War and its aftermath. *Occasional.*

AMH 3403 CAH-HIST 3(3,0)
History of the South Since 1865: PR: AMH 2010 and AMH 2020, or C.I. Reconstruction, the "solid South" and the racial dilemma, progressivism for whites only, southern literature, 20th-century economic, political and social changes, and the new Reconstruction. *Occasional.*

AMH 3422 CAH-HIST 3(3,0)
Frontier Florida: PR: AMH 2010 and AMH 2020 or C.I. History of Florida from U.S. territory until post-war industrialization. *Occasional.*

AMH 3425 CAH-HIST 3(3,0)
Sunbelt Florida: PR: AMH 2010 and AMH 2020 or C.I. History of Florida from post-war industrialization to the present. *Occasional.*

AMH 3441 CAH-HIST 3(3,0)
History of the Frontier: Eastern America: PR: AMH 2010 and AMH 2020 or C.I. The progression of the westward movement from the colonial settlements to the Mississippi, considered as an interpretive approach to American history. *Occasional.*

AMH 3442 CAH-HIST 3(3,0)
History of the Frontier: Western America: PR: AMH 2010 and AMH 2020, or C.I. The development of the trans-Mississippi West and its impact upon American history. *Occasional.*

AMH 3541 CAH-HIST 3(3,0)
U. S. Military History To 1900: PR: AMH 2010 and AMH 2020. U.S. military history from the colonial period to 1900 focusing on the creation of American military institutions, conduct of war, and influence on society. *Occasional.*

AMH 3547 CAH-HIST 3(3,0)
U.S. Military History Since 1900: PR: AMH 2010 and AMH 2020, or C.I. U. S. military history since 1900 emphasizing civil-military relations, warfare, and military developments. *Occasional.*

AMH 3558 CAH-HIST 3(3,0)
History of American Law: PR: AMH 2010 and AMH 2020, or EUH 2000 and EUH 2001. The social, political, and economic significance of the law as a historic process in America. *Occasional.*

AMH 3560 CAH-HIST 3(3,0)
Women, Law, and Society in American History: PR: AMH 2010, AMH 2020, or C.I. Examines the intersection of women and law in American History from the Colonial era to the present. *Occasional.*

AMH 3561 CAH-HIST 3(3,0)
Women in American History I: PR: AMH 2010, AMH 2020. Examines women in indigenous, colonial, African-American slave and free societies, Republican Motherhood, impact of industrialization on women's roles, and emergence of women's rights movement. *Occasional.*

AMH 3562 CAH-HIST 3(3,0)
Women in American History II: PR: AMH 2010, AMH 2020 or C.I. Examines industrialization, entry of women into higher education and professions, winning of suffrage, changing profile of female wage earner, and rise of modern feminist movement. *Occasional.*

AMH 3571 CAH-HIST 3(3,0)
Black American History I: PR: AMH 2010, AMH 2020 or C.I. History of Black Americans from Africa, to slavery, to freedom and its limits in pre-World War I America. *Occasional.*

AMH 3572 CAH-HIST 3(3,0)
Black American History II: PR: AMH 2010, AMH 2020 or C.I. A history of Black America in the Twentieth Century and the continuing struggle for equality in America. *Occasional.*

AMH 3580 CAH-HIST 3(3,0)
North American Indians: PR: AMH 2010 and AMH 2020. History of North American Indians and their relations with the United States from the 18th century to the present. *Occasional.*

AMH 3586 CAH-HIST 3(3,0)
History of the Hispanic Minorities in the U.S.: Course begins with 16th century through the modern period. Special emphasis on Chicanos, Puerto Ricans, and Cubans. *Occasional.*

AMH 3610 CAH-HIST 3(3,0)
Sport in America to 1945: PR: AMH 2010, AMH 2020 or C.I. History of sport emphasizing development of professional and collegiate sport to 1945. *Occasional.*

AMH 3611 CAH-HIST 3(3,0)
Sport in America Since 1945: PR: AMH 2010, AMH 2020 or C.I. American sport emphasizing the development of professional and collegiate sport since 1945. *Odd Spring.*

AMH 3800 CAH-HIST 3(3,0)
Canadian History: Canada since Colonial times and the present, but with emphasis on the period since the British North America Act, 1867. *Occasional.*

AMH 4110 CAH-HIST 3(3,0)
Colonial America, 1607-1763: PR: AMH 2010 and AMH 2020, or C.I. The voyages of discovery, the origins of the thirteen colonies, and their political, economic, social, and religious life in the 17th and 18th centuries. *Occasional.*

AMH 4112 CAH-HIST 3(3,0)
The Atlantic World: PR: C.I. The impact and transforming effect of the Atlantic System on the peoples of Western Europe, Western Africa, the Caribbean and the Americas. *Occasional.*

AMH 4130 CAH-HIST 3(3,0)
The Age of the American Revolution, 1763-1789: PR: AMH 2010 and AMH 2020, or C.I. The American Revolution - its origins, course, and impact upon American society - the Articles of Confederation, the Philadelphia Convention and its work. *Occasional.*

AMH 4140 CAH-HIST 3(3,0)
Jeffersonian America: PR: AMH 2010 and AMH 2020, or C.I. The Confederation era, the Federalists, Jeffersonian Democracy, and the War of 1812. *Occasional.*

AMH 4160 CAH-HIST 3(3,0)
Jacksonian America: PR: AMH 2010 and AMH 2020, or C.I. The risk of American nationalism, Jacksonian Democracy, the Mexican War, and sectional conflict. *Occasional.*

AMH 4170 CAH-HIST 3(3,0)
Civil War and Reconstruction: PR: AMH 2010 and AMH 2020, or C.I. Reconstruction, and impact of industrialism. *Occasional.*

AMH 4201 CAH-HIST 3(3,0)
The Gilded Age and Progressivism: PR: AMH 2010 and AMH 2020, or C.I. The Rise of Industrialized and Urbanized America, The emergence of the New South and the New West, the Populist Movement, overseas expansion, Progressivism. *Occasional.*

AMH 4231 CAH-HIST 3(3,0)
United States History: 1914-1939: PR: AMH 2010 and AMH 2020, or C.I. The progressive reforms of Woodrow Wilson, World War I, post-war prosperity, the Depression, the New Deal, and the coming of World War II. *Occasional.*

AMH 4270 CAH-HIST 3(3,0)
United States History: 1939-1960: PR: AMH 2010 and AMH 2020, or C.I. World War II, the Cold War and America in the fifties. *Occasional.*

AMH 4273 CAH-HIST 3(3,0)
U. S. History Since 1960: PR: AMH 2010 and AMH 2020 or C.I. Civil rights and Women's Liberation Movements, Vietnam War, Watergate, the decline of liberalism and the rise of conservatism, end of the Cold War. *Occasional.*

UCF Courses and Descriptions

AMH 4311 CAH-HIST 3(3,0)
American Culture I: PR: AMH 2010 and AMH 2020, or C.I. The European Backgrounds: Puritanism; Enlightenment; the Great Awakening; Revolutionary Thought; Romanticism; the Southern Mind and the Yankee Response; Popular Culture and the rise of recreation. *Occasional.*

AMH 4313 CAH-HIST 3(3,0)
American Culture II: PR: AMH 2010 and AMH 2020, or C.I. The Darwinian Revolution; revolt of the intellectuals; the media explosion; mass entertainment in mass culture; the loss of community, the nuclear age, and presentism. *Occasional.*

AMH 4375 CAH-HIST 3(3,0)
Technology and US Culture: PR: AMH 2010 or AMH 2020. Examines the history of technology in the United States, its impact on society, and society's impact on technological development. *Even Spring.*

AMH 4376 CAH-HIST 3(3,0)
U.S. Space History: PR: AMH 2010 and AMH 2020, or C.I. Post World War II US rocketry and space travel with focus on the role of Cape Canaveral/Kennedy Space Center. *Occasional.*

AMH 4510 CAH-HIST 3(3,0)
Rise of the United States to World Power, 1776-1914: PR: AMH 2010 and AMH 2020, or C.I. The evolution of basic American policies. American expansion. America's major wars, and the emergence of America as a world power. *Occasional.*

AMH 4512 CAH-HIST 3(3,0)
US Diplomatic History: 1914-1945: PR: AMH 2010 and AMH 2020, or C.I. U.S. diplomacy from World War I through World War II *Occasional.*

AMH 4513 CAH-HIST 3(3,0)
United States as a Great Power: 1945-Present: PR: AMH 2020 or C.I. U.S. diplomacy from World War II to the present. *Occasional.*

AMH 4573 CAH-HIST 3(3,0)
Black Militancy in the 20th Century: PR: AMH 2010 and AMH 2020 or C.I. The rise and development of black militant organizations and how these groups have been influenced by hostile foreign entities. *Occasional.*

AMH 4644 CAH-HIST 3(3,0)
Viewing American History in the Twentieth Century: PR: AMH 2010 and AMH 2020 or C.I. Examination of television, film, comics, and other popular media as primary sources in the study of U.S. History in the 20th Century. *Spring.*

AMH 4650 CAH-HIST 3(3,0)
History of U.S. Aviation: PR: AMH 2010 or AMH 2020. Aviation development in the United States and its role in American culture. *Even Fall.*

AMH 4680 CAH-HIST 3(3,0)
Women in American Science: PR: AMH 2010 or AMH 2020. Examines how American society uses Western ideas about sex and gender to define women's roles in science and their influence on their fields. *Even Fall.*

AMH 5116 CAH-HIST 3(3,0)
Colloquium in U.S. Colonial History: PR: Graduate standing or senior standing or C.I. Reading and discussion of the literature on selected topics in colonial American history. May be used in the degree program a maximum of 4 times. *Occasional.*

AMH 5137 CAH-HIST 3(3,0)
Colloquium in U.S. Revolutionary Period: PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789. *Occasional.*

AMH 5149 CAH-HIST 3(3,0)
Colloquium in Early U.S. History, 1789-1815: PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of the early national period. *Occasional.*

AMH 5169 CAH-HIST 3(3,0)
Colloquium in Age of Jackson: PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age. *Occasional.*

AMH 5176 CAH-HIST 3(3,0)
Colloquium in Civil War and Reconstruction: PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era. *Occasional.*

AMH 5219 CAH-HIST 3(3,0)
Colloquium in Late 19th Century U.S.: PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of late 19th century U.S. *Occasional.*

AMH 5296 CAH-HIST 3(3,0)
Colloquium in 20th Century U.S.: PR: Graduate standing or senior standing or C.I. Reading and class discussion on selected topics in 20th-century U.S. May be used in the degree program a maximum of 4 times. *Occasional.*

AMH 5378 CAH-HIST 3(3,0)
History of Technology: PR: Graduate standing or C.I. Introduces the historiography of technology's role in historical events, and society's role in shaping technology. *Occasional.*

AMH 5391 CAH-HIST 3(3,0)
Colloquium in U.S. Cultural History: PR: Graduate standing or senior standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field. *Occasional.*

AMH 5406 CAH-HIST 3(3,0)
Colloquium in American South: PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of Southern history from colonial origins to the present. *Occasional.*

AMH 5446 CAH-HIST 3(3,0)
Colloquium in U.S. Frontier: PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of frontier history. *Occasional.*

AMH 5566 CAH-HIST 3(3,0)
Colloquium: Women in American History: PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of Women in American History from colonial time to the present. *Occasional.*

AMH 5636 CAH-HIST 3(3,0)
Colloquium in US Environmental History: PR: Graduate standing or C.I. Evolution of historical texts and methodologies for understanding nature-human interaction and how access to resources shaped human opportunity, from colonization to the present. *Occasional.*

AMH 5925 CAH-HIST 3(3,0)
Colloquium in US Military History: PR: Graduate standing or C.I. Readings in selected topics in United States military history. May be used in the degree program a maximum of 3 times only when course content is different. *Occasional.*

AML 3031 CAH-ENG 3(3,0)
American Literature I: PR: Grade of C (2.0) or better required in ENC 1102. Major American writers from beginning through Whitman. *Fall, Spring.*

AML 3041 CAH-ENG 3(3,0)
American Literature II: PR: Grade of C (2.0) or better required in ENC 1102. Major American writers from Twain to present. *Fall, Spring.*

AML 3283 CAH-ENG 3(3,0)
Contemporary American Women's Fiction: PR: Grade of C (2.0) or better required in ENC 1102. Examines how novels and short stories by contemporary U.S. women define identity from diverse woman-centered and feminist perspectives. *Occasional.*

AML 3286 CAH-ENG 3(3,0)
Early American Women's Words: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Women's writings in the Americas from the 17th century through the mid-19th century. *Occasional.*

AML 3613 CAH-ENG 3(3,0)
Narratives of Slavery: PR: Grade of C (2.0) or better required in ENC 1102. Literary representations of New World slavery in the past and the present. *Occasional.*

AML 3614 CAH-ENG 3(3,0)
Topics in African-American Literature: PR: Grade of C (2.0) or better required in ENC 1102. Literature by and about African-American culture in the United States. May be repeated for credit. *Occasional.*

AML 3615 CAH-ENG 3(3,0)
Harlem, Haiti, and Havana: PR: Grade of C (2.0) or better required in ENC 1102. A comparative approach to African American and Caribbean writers, focusing on literary styles, historical contexts, and themes such as nationalism, popular music, and folk religion. *Occasional.*

AML 3640 CAH-ENG 3(3,0)
Native American Literature: PR: Grade of C (2.0) or better required in ENC 1101 and ENC 1102. Native American genres, including traditional oral narratives, ritual and contemporary poetry, autobiography, and the novel. *Occasional.*

AML 3643 CAH-ENG 3(3,0)
Contemporary Native American Prose and Poetry: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. American Indian fiction, non-fiction, and poetry since 1970. *Occasional.*

AML 3682 CAH-ENG 3(3,0)
Ethnic Literature in America: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Contributions of linguistic and ethnic groups of non-English origin to the literature of the United States. *Occasional.*

AML 3682H CAH-ENG 3(3,0)
Honors Ethnic Literature in America: PR: Permission of Honors and ENC 1102H or equivalent credit. Contributions of linguistic and ethnic groups of non-English origin to the literature of the United States. Honors content. *Occasional.*

AML 4101 CAH-ENG 3(3,0)
American Novel: PR: Grade of C (2.0) or better required in ENC 1102 and ENG 3014. Analysis of major American novelists. *Occasional.*

AML 4155 CAH-ENG 3(3,0)
Modern American Poetry: PR: Grade of C (2.0) or better required in ENG 3014. Major American poets of the modern (1900-1950) period. *Occasional.*

AML 4261 CAH-ENG 3(3,0)
Literature of the South: PR: Grade of "C" (2.0) or better in ENG 3014 or C.I. Development of Southern literature from its beginnings in the "Old South" through the post-Civil War and the Southern Renaissance to the present. Emphasizes readings from writers such as Poe, Chopin, Faulkner, Porter, Williams, O'Connor, Percy, and Styron. *Occasional.*

AML 4265 CAH-ENG 3(3,0)
Florida Writers: PR: Grade of C (2.0) or better required in ENC 1102 and ENG 3014. This course will examine writers who have lived in and written about Florida, such as Hemingway, Rawlings, Hurston, and Stevens. *Occasional.*

AML 4300 CAH-ENG 3(3,0)
Major American Authors: PR: Grade of C (2.0) or better required in ENG 3014. A comprehensive study of selected major American literary figures. May be repeated for credit only when course content is different. *Fall, Spring.*

AML 4321 CAH-ENG 3(3,0)
Modern American Literature: PR: Grade of C (2.0) or better required in ENG 3014. Major writers of modern American literature. *Occasional.*

AML 4630 CAH-ENG 3(3,0)
Latino/Latina Literature: PR: Grade of C (2.0) or better required in ENG 3014. U.S. literature by writers from Latino and Latina backgrounds. *Occasional.*

ANG 5100 COS-ANTHRO 3(3,0)
Archeological Sciences: PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Field and laboratory methods routinely used in archeology and forensic archeology, including instrumentation. *Occasional.*

ANG 5166 COS-ANTHRO 3(3,0)
Problems in Maya Studies: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. In-depth study of current methodological, theoretical, and/or topical problems in Maya Studies. *Occasional.*

ANG 5167 COS-ANTHRO 3(3,0)
Maya Hieroglyphs: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. The study of Maya writing, the translation of Maya hieroglyphs, and the significance of translations to reconstructions of ancient Maya culture. *Occasional.*

ANG 5191 COS-ANTHRO 3(3,0)
Mortuary Archaeology: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Funerary customs and human remains; basic data collection, skeletal analysis, and comparative study of mortuary ritual-ancient and modern. *Occasional.*

ANG 5228 COS-ANTHRO 3(3,0)
Maya Iconography: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Study and interpretation of ancient Maya iconography as reflected in art, artifacts, and constructed features. *Odd Spring.*

ANG 5272 COS-ANTHRO 3(3,0)
Culture, Inequality and Global Development: PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Origins and contemporary ramifications of underdevelopment and disempowerment in the world system from an anthropological perspective. *Occasional.*

ANG 5301 COS-ANTHRO 3(3,0)
Anthropology of Tourism: PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Anthropology of tourism in U.S. and world regions, including impacts on local peoples, cultures, and environments. *Occasional.*

ANG 5486 COS-ANTHRO 3(3,0)
Quantitative Research in Anthropology: PR: Admission to the MA in Anthropology program, Maya Studies graduate certificate, or C.I. Quantitative approaches to problems in anthropology, including multivariate systems, assessment of reliability, and approaches for small samples. *Even Fall.*

ANG 5525C COS-ANTHRO 4(3,1)
Human Osteology: PR: Admission to the Anthropology M.A. program or C.I. The human skeleton and the methodology and techniques involved in the anthropological assessment of skeleton remains. *Fall.*

ANG 5531 COS-ANTHRO 3(3,0)
Nutritional Anthropology: PR: Admission to Anthropology M.A., Maya Studies GC, or C.I. The biological, social, cultural, psychological, and environmental influences of food consumption and physiological status. Perspectives are cross-cultural, evolutionary, ecological. *Occasional.*

ANG 5620 COS-ANTHRO 3(3,0)
Language and Culture: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Language as an integral part of human culture and behavior, focusing on cross cultural issues that affect cultural competency. *Occasional.*

ANG 5738 COS-ANTHRO 3(3,0)
Advanced Medical Anthropology: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced topics in ethnography of medical traditions and anthropological approaches to the study of health and disease. *Occasional.*

ANG 5742 COS-ANTHRO 3(3,0)
Problems in Forensic Anthropology: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Current issues and topics in forensic anthropology. *Even Spring.*

ANG 5822 COS-ANTHRO 3(3,0)
Maya Field Research: PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Practical application of method and theory during primary infield research in the Maya area. *Spring.*

ANT 2000 COS-ANTHRO 3(3,0)
General Anthropology: An introductory survey of the four major subfields of anthropology: Social Anthropology, Physical Anthropology, Linguistics, and Archaeology. *Fall/Spring.*

ANT 2000H COS-ANTHRO 3(3,0)
Honors General Anthropology: PR: Permission of Honors. Extensive honors work in the field of anthropology. Expectations, requirements, and standards are greater than for standard General Anthropology. *Occasional.*

ANT 2140 COS-ANTHRO 3(3,0)
Archaeology and the Rise of Human Culture: The evolution of human society from foraging and hunting groups to the earliest cities and states. *Fall/Spring.*

ANT 2410 COS-ANTHRO 3(3,0)
Cultural Anthropology: Global Perspectives, Local Contexts: An introduction to human diversity as exemplified among various cultures and ethnic groups. *Fall/Spring.*

ANT 2511 COS-ANTHRO 3(3,0)
The Human Species: Human biological variation in an evolutionary perspective. *Fall/Spring.*

ANT 2511H COS-ANTHRO 3(3,0)
Honors The Human Species: PR: Permission of Honors. Human biological variation in an evolutionary perspective. *Fall.*

ANT 2511L COS-ANTHRO 1(0,1)
Physical Anthropology Lab: PR: or C.R. ANT 2511 or C.I. General overview of physical anthropology laboratory methods. *Fall/Spring.*

ANT 3026 COS-ANTHRO 3(3,0)
Mummies, Zombies, and Vampires: Anthropology of the Undead: PR: Sophomore standing. Anthropological exploration into the phenomenon of the undead (namely, zombies, vampires and mummies) and our fascination with this subject. *Occasional.*

ANT 3106 COS-ANTHRO 3(3,0)
Archaeology and Popular Culture: PR: Sophomore standing. How the ancient past and archaeology appear in popular culture and are manipulated and used by modern societies. *Occasional.*

ANT 3107 COS-ANTHRO 3(3,0)
Blood and Valor in the Viking World: PR: Sophomore standing, or C.I. Examines anthropological and archaeological themes of Norse daily life, belief systems, mortuary treatment, material culture, and culture contact among Viking Age societies. *Odd Spring.*

ANT 3142 COS-ANTHRO 3(3,0)
Old World Prehistory: PR: Sophomore Standing. A comparative study of social evolution in Africa, Europe, and Asia from the earliest humans to the beginnings of recorded history. *Fall.*

ANT 3145 COS-ANTHRO 3(3,0)
Archaeology of Complex Societies: PR: ANT 2140 or C.I. Theoretical perspectives on ancient hierarchies of power. *Fall/Spring.*

ANT 3148 COS-ANTHRO 3(3,0)
Life and Death in Ancient Egypt: PR: Sophomore standing. Use of archaeology and physical anthropology to examine the lives and death of both common citizens and royalty in Ancient Egypt (3200 BCE-AD 600). *Spring.*

ANT 3152 COS-ANTHRO 3(3,0)
Cliffs, Canyons, and Deserts: Ancient Societies of the Greater Southwest: PR: Sophomore Standing or C.I. The precolumbian history of the Native peoples of the U.S. Southwest, from the region's first colonists to Puebloan and Navajo groups of the Contact era. *Even Fall.*

ANT 3154 COS-ANTHRO 3(3,0)
A Survey of American Historical Archaeology: PR: Sophomore Standing or C.I. Examines historical archaeology of the United States from the arrival of Europeans through the early 20th century to understand America's history using archaeological principles. *Even Fall.*

ANT 3158 COS-ANTHRO 3(3,0)
Florida Archaeology: PR: Sophomore standing. Florida prehistory from Paleo-Indian to European contact including archaeological periods, cultural areas, sites, and artifacts. *Spring.*

ANT 3160 COS-ANTHRO 3(3,0)
Americas Before Columbus: PR: Sophomore standing. Archaeological developments of North, Central, and South America from the hemisphere's initial peopling through the advent of European cultures. *Occasional.*

ANT 3161 COS-ANTHRO 3(3,0)
Ancient Mexico: Aztec to Zapotec: PR: Sophomore Standing or C.I. Achievements of civilizations in Mexico (Olmec, Zapotec, Aztec) as well as lesser known archaeological cultures. *Occasional.*

ANT 3163 COS-ANTHRO 3(3,0)
Mesoamerican Archaeology: PR: Sophomore standing. An introduction to the prehistory of Mexico. Guatemala and upper Central America from earliest times through the Spanish conquest. *Fall.*

ANT 3164 COS-ANTHRO 3(3,0)
Ancient Incas: PR: Sophomore standing, or C.I. The ancient Inca civilization, including examination of pre-Inca cultures and modern Andeans. Uses archaeological, ethnohistorical, historical, and contemporary anthropological sources. *Spring.*

ANT 3165 COS-ANTHRO 3(3,0)
Archaeology of South America: PR: ANT 2140, or C.I. Civilizations of South America from the last ten thousand years, focusing primarily on civilizations of the Andes and other areas. *Occasional.*

ANT 3168 COS-ANTHRO 3(3,0)
Maya Archaeology: PR: Sophomore standing. An examination of the Prehistoric Maya culture focusing on both the archaeology and current issues in the field. *Occasional.*

ANT 3169 COS-ANTHRO 3(3,0)
Life and Death in the Ancient Andes: PR: ANT 2511 or Sophomore Standing. Demonstrates the potential of human skeletal remains for reconstructing past lifeways in the ancient Andean civilizations of South America (Peru and Bolivia). *Occasional.*

ANT 3173 COS-ANTHRO 3(3,0)
Archaeology of Sex: PR: Sophomore standing. Cross-cultural concepts of sex, sexuality, and sexual intercourse throughout human history from an archaeological perspective. *Spring.*

ANT 3174 COS-ANTHRO 3(3,0)
Battlefield Archaeology: PR: Sophomore Standing or C.I. Provide students an archaeological perspective of fields of combat and military infrastructure from the Classic period to the early 20th century. *Odd Fall.*

ANT 3177 COS-ANTHRO 3(3,0)
Archaeology of Caribbean Piracy: PR: Sophomore standing. The profession of piracy in the context of Caribbean prehistory and archaeology. *Fall.*

ANT 3179 COS-ANTHRO 3(3,0)
Australian Archaeology and Indigenous Cultures: PR: Sophomore standing or C.I. Explore indigenous peoples, both past and present, through historical and maritime archaeology, as a means of unraveling the full breadth of Australia's rich indigenous cultures. *Odd Fall.*

ANT 3212 COS-ANTHRO 3(3,0)
Peoples of the World: PR: Sophomore standing. A comparative study of religion, family, politics, philosophy, and other elements of socio-cultural organization of pre-literate societies. *Fall/Spring.*

ANT 3241 COS-ANTHRO 3(3,0)
Magic, Ritual, and Belief: PR: Sophomore standing. Patterns in religious behavior in various societies, with primary emphasis on myth, rite, taboo, and festival social phenomena. *Fall/Spring.*

ANT 3245 COS-ANTHRO 3(3,0)
Native American Religions: PR: Sophomore standing. The religious beliefs of native New World peoples. *Fall/Spring.*

UCF Courses and Descriptions

ANT 3262 COS-ANTHRO 3(3,0)
Rural Society: PR: or CR: ANT 2000 or C.I. An introduction to rural society in the U.S. and abroad. Problems of third world development in the rural sector. *Occasional.*

ANT 3273 COS-ANTHRO 3(3,0)
Law and Culture: PR: or CR: ANT 2000 or C.I. An introduction to law as an organizing force in society, including a study of primitive forms of law and social control. *Occasional.*

ANT 3275 COS-ANTHRO 3(3,0)
Anthropological Perspectives on Refugees: PR: Sophomore standing or C.I. The culturally specific causes of refugee flows, responses to refugees, cultural issues refugees experience when they seek asylum, and resettlement experiences. *Even Spring.*

ANT 3290 COS-ANTHRO 3(3,0)
Anthropology of Plants and People: PR: ANT 2140 or Sophomore Standing. Anthropological perspectives involving the interactions between people and plants. *Even Spring.*

ANT 3302 COS-ANTHRO 3(3,0)
Sex, Gender and Culture: PR: Sophomore standing. The traditional and changing roles of women and men viewed in a cross-cultural perspective. *Fall/Spring.*

ANT 3311 COS-ANTHRO 3(3,0)
Indians of the Southeastern United States: PR: Sophomore standing. A study of the social and cultural history of the Indians of the Southeast. *Occasional.*

ANT 3312 COS-ANTHRO 3(3,0)
Ethnology of North American Indians: PR: Sophomore standing. A survey of the aboriginal cultures of North America, with emphasis on the pre-contact cultural condition. *Occasional.*

ANT 3313 COS-ANTHRO 3(3,0)
Indians of North America High Plains: PR: Sophomore standing. A study of the social and cultural history of the Indians of the North American High Plains. *Occasional.*

ANT 3319 COS-ANTHRO 3(3,0)
Slavery, Resistance, and Cultural Dynamics Among African People in the Americas: PR: Sophomore standing. The roles of the slave trade, race, and resistance in the transformation of African cultures in Africa, the Americas, and the Caribbean. *Occasional.*

ANT 3330 COS-ANTHRO 3(3,0)
Anthropology of the Amazon: PR: Sophomore Standing or C.I. The historical ecology and archaeology of indigenous Amazonians, including evidence from archaeological, ethnographic and linguistic studies. *Occasional.*

ANT 3362 COS-ANTHRO 3(3,0)
Peoples of Southeast Asia: PR: Sophomore standing. A survey of the peoples of Vietnam, Cambodia, Laos and Thailand from the anthropological perspective. *Occasional.*

ANT 3393 COS-ANTHRO 3(3,0)
American Indian Literature and Culture in Florida: PR: ENC 1102. Literature about the Apalachee, Timucua, Seminole, and Calusa tribes in Florida, examining various issues through oral tales and legends, treaties, archival sources. *Occasional.*

ANT 3398 COS-ANTHRO 3(3,0)
Black/Seminole Relations: PR: Sophomore standing. Relationships forged between peoples of African origin and descent and the Seminole Indians. *Occasional.*

ANT 3541 COS-ANTHRO 3(3,0)
Biobehavioral Anthropology: PR: Sophomore standing. An introduction to the study of human behavior in terms of mutual interaction between human biology and cultural environments. *Fall.*

ANT 3550C COS-ANTHRO 3(2,1)
Primateology: PR: One of the following: ANT 2511, BSC 2010C, or C.I. Study of species from the Order Primates, including their morphology, ecology, behavior, and geographic distribution. *Occasional.*

ANT 3610 COS-ANTHRO 3(3,0)
Language and Culture: PR: Sophomore standing. The study of language in a non-western setting; language and behavior; language and perception. *Fall/Spring.*

ANT 3701 COS-ANTHRO 3(3,0)
Engagement & Social Change: Public Anthropology: PR: Sophomore Standing or C.I. Application of anthropological methods to current human problems such as the environment, migration, globalization and health. *Even Fall.*

ANT 3943 COS-ANTHRO 3(3,0)
Caribbean Archaeology Practicum: PR: Previous fieldwork is preferred, and C.I. Field archaeology by participating in field schools at prehistoric Lucayan sites on Eleuthera and/or Inagua Islands. May be used in the degree program a maximum of 2 times. *Occasional.*

ANT 4013 COS-ANTHRO 3(3,0)
Anthropology of Fast Food: PR: ANT 2000 or ANT 2410 or C.I. Anthropological research on corporate fast food in diverse cultural settings. *Occasional.*

ANT 4027 COS-ANTHRO 3(3,0)
Mummies, Life After Death: PR: ANT 2511 or C.I. Cultural practices and beliefs surrounding death; the concerns cultures and humans have had throughout the ages about the body's decay after life, and their attempts to prevent decay and preserve bodies in a state as near to life as possible. *Occasional.*

ANT 4034 COS-ANTHRO 3(3,0)
History of Anthropological Thought: PR: ANT 2410 or C.I. The exploration of the intellectual foundations of modern anthropology. *Fall/Spring.*

ANT 4051 COS-ANTHRO 3(3,0)
Environmental Anthropology: PR: ANT 2140 or Junior Standing. Relationships between human cultures and societies and the environment from an anthropological perspective. *Even Fall.*

ANT 4105 COS-ANTHRO 3(3,0)
Saving the Plundered Past: Ethics and Controversy in Contemporary Archaeology: PR: ANT 2140 or Junior Standing. Social, economic and political contexts surrounding contemporary archaeological research and interpretation, with emphasis on ethics, heritage management, and law. *Even Spring.*

ANT 4115C COS-ANTHRO 3(2,1)
Archaeological Method and Theory: PR: ANT 2140 or C.I. A survey of archaeological field and laboratory techniques, including the interpretation of written archaeological reports. *Spring.*

ANT 4153 COS-ANTHRO 3(3,0)
North American Archaeology: PR: Sophomore standing. The cultural development of Native North Americans from prehistoric times to the period of the first European contact. *Spring.*

ANT 4171 COS-ANTHRO 3(3,0)
Anthropology: The Battle of the Sexes?: The Archaeology of Gender: PR: ANT 2140 or Sophomore Standing. Advances in archaeological research on gender, sexuality and social identity. *Even Spring.*

ANT 4180C COS-ANTHRO 3(1,4)
Seminar in Laboratory Analysis: PR: or CR: ANT 2000 or ANT 2140 or C.I. The processing of archaeological finds from excavation through publication. May be repeated for credit. *Spring.*

ANT 4183 COS-ANTHRO 3(3,0)
Archaeological Sciences: PR: One of the following: ANT 2511, ANT 2140, CHS 3501, any 4000 level Criminal Justice course, or C.I. Methods and instrumentation routinely used in archaeology and forensic archaeology. *Spring.*

ANT 4184 COS-ANTHRO 3(3,0)
Mortuary Archaeology: PR: ANT 2140 or ANT 2511, or C.I. Archaeological interpretations of death; basic data collection, skeletal analysis, and comparative study of mortuary ritual - both ancient and modern. *Odd Spring.*

ANT 4187 COS-ANTHRO 3(2,1)
Paleoethnobotany: PR: ANT 2140, Junior standing. Provides students with knowledge and understanding of paleoethnobotany sufficient to understand, interpret, and evaluate plant data in archaeological, paleoecological, and contemporary research. *Odd Spring.*

ANT 4266 COS-ANTHRO 3(3,0)
Economic Anthropology: Production, Consumption, and Exchange: PR: ANT 2000, ECO 2013, PSY 2012, or SYG 2000. Issues, methods, and concepts of economic anthropology. *Occasional.*

ANT 4303 COS-ANTHRO 3(3,0)
Anthropology of Tourism: PR: ANT 2000, or SYG 2000, or PSY 2012 or C.I. Social theory of tourism; anthropology of tourism in U.S. and world regions, including impacts on local peoples, cultures, and environments. *Occasional.*

ANT 4332 COS-ANTHRO 3(3,0)
People and Cultures of Latin America: PR: One of the following: ANT 2000, SYG 2000, PSY 2012, ANT 2410, or C.I. History and society of the peoples of Latin America, emphasizing patterns of subsistence and social organization. *Odd Fall.*

ANT 4340 COS-ANTHRO 3(3,0)
Caribbean Cultures: PR: ANT 2000, ANT 2410, SYG 2000, PSY 2012, or C.I. Comparative study of peoples and cultures of the Anglophone, Francophone, Hispanophone, and Caribbean. *Even Spring.*

ANT 4352 COS-ANTHRO 3(3,0)
African Societies and Cultures: PR: ANT 2000 or SYG 2000 or C.I. Anthropological survey of Africa examining the social, cultural, and economic diversity of the continent over time. *Even Fall.*

ANT 4406 COS-ANTHRO 3(3,0)
Pain and Suffering: The Anthropology of Violence: PR: ANT 2511 or ANT 2410. Survey the phenomenon of violence in human societies by exploring anthropological perspectives and theories based in human evolutionary biology, archaeology, forensics, and ethnology. *Even Spring.*

ANT 4408 COS-ANTHRO 3(3,0)
Culture, Disease, and Healing: PR: Sophomore Standing or C.I. The role of culture in shaping the experience and perceptions of health, sickness, and well-being in a variety of contexts. *Spring.*

ANT 4441 COS-ANTHRO 3(3,0)
Anthropology of Cities: PR: ANT 2140 or Junior Standing. Cities in the past and present along with the activities and social systems that create them from an archaeological and anthropological perspective. *Even Spring.*

ANT 4462 COS-ANTHRO 3(3,0)
Medical Anthropology: PR: ANT 2000 or ANT 2511 or C.I. The field of medical anthropology. Topics will include theories, methods, and applications. *Fall.*

ANT 4467 COS-ANTHRO 3(3,0)
Nutritional Anthropology: PR: ANT 2511 or C.I. Psychological, biological, social, cultural, and environmental influences of food consumption and physiological status. Perspectives are cross-cultural, ecological and evolutionary. *Occasional.*

ANT 4480 COS-ANTHRO 3(3,0)
Global Health in Anthropological Perspective: PR: ANT 2410 or C.I. The exploration of global health issues from an anthropological and cross-cultural perspective. *Odd Fall.*

ANT 4481 COS-ANTHRO 3(3,0)
Anthropology of Drugs and Addiction: PR: Sophomore Standing, or C.I. Anthropological approaches of drugs and addiction in the U.S. and internationally as topics of cultural, political, economic, and health concerns. *Odd Fall.*

ANT 4482 COS-ANTHRO 3(3,0)
Anthropology of Mental Health: PR: Junior Standing or any upper level course in Anthropology, Sociology, Psychology, or Social Work. Anthropological approaches to mental health and examines mental health and healing in cross-cultural perspective. *Odd Spring.*

ANT 4483 COS-ANTHRO 3(3,0)
Health and Healing in the Ancient World: An Anthropological Perspective: PR: ANT 2511 or junior standing. A history of health and healing in the human past and how archaeologists can determine patterns and changes over time. *Odd Spring.*

ANT 4516 COS-ANTHRO 3(3,0)
Human Biological Diversity: PR: ANT 2511 or BSC 2010C or C.I. Human biological variation and adaptation. *Spring.*

ANT 4521 COS-ANTHRO 3(3,0)
Forensic Anthropology: PR: One of the following; ANT 2511, CHS 3501, any 4000 level Criminal Justice class, or C.I. The study of human skeletal remains in relation to a legal context. *Fall.*

ANT 4525C COS-ANTHRO 4(3,1)
Human Osteology: PR: One of the following; ANT 4521, ZOO 3713C, ZOO 3733C, or C.I. The scientific study of the human skeleton and the methodology and techniques involved in the anthropological assessment of skeletal remains. *Fall.*

ANT 4560 COS-ANTHRO 3(3,0)
Birth to Death: Anthropological Perspectives on Human Growth: PR: ANT 2511 or C.I. Evolutionary, ecological, historical and cultural perspectives on human growth, maturation, and aging. *Occasional.*

ANT 4586C COS-ANTHRO 3(2,1)
Human Origins: PR: ANT 2511 or C.I. The fossil evidence for human evolution from Miocene hominoids through the australopithecines and the earliest members of the genus Homo. *Fall, Spring.*

ANT 4702 COS-ANTHRO 3(3,0)
Culture, Inequality and Global Development: PR: Sophomore Standing or C.I. Anthropological perspective on origins and contemporary ramifications of underdevelopment and disempowerment in the world system. *Occasional.*

ANT 4802 COS-ANTHRO 3(3,0)
Ethnographic Field Methods: PR: ANT 2000, ANT 2410, SYG 2000, PSY 2012, or C.I. Procedures and principles of ethnographic research methods. *Occasional.*

ANT 4824 COS-ANTHRO 9(9,0)
Advanced Archaeological Fieldwork: PR: Students admitted only with permission of instructor. Supervised archaeological fieldwork. *Spring.*

ANT 4852 COS-ANTHRO 3(3,0)
GIS Methods in Anthropology: PR: Junior standing or C.I. An overview to Geographic Information Systems (GIS) methods from an anthropological perspective. *Even Fall.*

ANT 4854 COS-ANTHRO 3(3,0)
Advanced GIS Methods in Anthropology: PR: ANT 3852 or C.I. Advanced methods to Geographic Information Systems (GIS) from an anthropological perspective. *Odd Spring.*

APK 3132 ED-E&HS 3(3,0)
Triathlon Training and Performance: PR: PEM 2104 Personal Fitness or C.I. Triathlon concepts, training, and performance, leading to the development of optimal fitness and an improved healthy lifestyle. *Occasional.*

APK 3400 COS-PSYCH 3(3,0)
Sports Psychology: PR: PSY 2012. A review of principles of psychology related to the enhancement of satisfaction and performance in sports. *Occasional.*

APK 4110C ED-E&HS 3(2,1)
Exercise Physiology: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent, and minimum overall 2.5 GPA. Metabolic, neuromuscular, respiratory and cardiovascular physiological concepts and principles with practical application to sport and exercise science. *Fall, Spring.*

ARA 1120C CAH-LANG 4(4,1)
Honors Elementary Arabic Language and Civilization I: PR: Permission of Honors. Introduction to Arabic language skills. Open only to students with no experience in the language. Honors level content. *Occasional.*

ARA 1120C CAH-LANG 4(3,1)
Elementary Arabic Language and Civilization I: Introduces the student to Arabic language skills. Open only to students with no experience in the language. *Fall.*

ARA 1121C CAH-LANG 4(3,1)
Elementary Arabic Language and Civilization II: PR: ARA 1120C or C.I. Continuation of ARA 1120C. *Spring.*

ARA 1121C CAH-LANG 4(4,1)
Honors Elementary Arabic Language and Civilization II: PR: Permission of Honors. Continuation of ARA 1120C. Honors level content. *Occasional.*

ARA 2200 CAH-LANG 3(3,1)
Intermediate Arabic Language and Civilization I: PR: ARA 1121C or C.I. Development of language skills and cultural knowledge at the intermediate level. *Occasional.*

ARA 2201 CAH-LANG 3(3,0)
Intermediate Arabic II: PR: ARA 2200 or equivalent or C.I. Continuation of ARA 2200 with emphasis on Arabic cultures. *Fall, Spring.*

ARC 3181 CAH-SVAD 3(3,0)
Advanced Topics in Digital Architecture: PR: Completion of Articulated Pre-Major: Architecture A.A. at Valencia College West or C.I. Continued investigation of computer-aided design programs currently utilized by professional practices. *Odd Spring.*

ARC 3270 CAH-SVAD 3(3,0)
Professional Practice in Architecture: PR: ARC 3320L or C.I. Professional architecture practices in conjunction with supervised experiences at local, central Florida firms. *Occasional.*

ARC 3310C CAH-SVAD 3(1,3)
Parametric Modeling and Digital Fabrication: PR: ARC 2180 (offered through Valencia College) or equivalent. Computer-aided hardware and software utilized in the professional practice of architecture. *Occasional.*

ARC 3320L CAH-SVAD 6(0,9)
Architectural Design 5: PR: Completion of Articulated Pre-Major: Architecture A.A. at Valencia College West or C.I. Investigates architectural design and its relationship to regional contextual influences through a range of projects which vary in scale and complexity. *Even Fall.*

ARC 3321L CAH-SVAD 6(0,9)
Architectural Design 6: PR: ARC 3320L. Architectural design with a large scale urban context. Theory, methodology, and evolution of urban form in response to social, cultural, economic and technological forces. *Odd Spring.*

ARC 3463 CAH-SVAD 3(3,0)
Materials and Methods of Construction 2: CR: ARC 4323L. Methods of assembling and selecting materials; detailed systems of construction will be investigated. *Even Spring.*

ARC 3503 CAH-SVAD 3(3,0)
Architectural Structures: PR: Completion of Articulated Pre-Major: Architecture A.A. at Valencia College West or C.I.; CR: ARC 3320L. Principles of structural behavior in withstanding gravity and lateral forces. Considers structural layout, load distribution, and preliminary design techniques; and examines contemporary structural systems through case studies. *Even Fall.*

ARC 3610 CAH-SVAD 3(3,0)
Environmental Technology 1: CR: ARC 3321L. Principles and practices relating to control of the thermal/atmospheric environment and plumbing in buildings. *Odd Spring.*

ARC 3743 CAH-SVAD 3(3,0)
Architectural History 3: CR: ARC 3320L. Social, political, material, technological, and cultural forces on design and construction from 1850, including architect's role in civil society and theoretical positions of architects and architectural schools. *Even Fall.*

ARC 4220 CAH-SVAD 3(3,0)
Architectural Theory 2: CR: ARC 4322L. Investigates the theoretical, historical and ideological ideas in architecture that took place during the early decades of the twentieth century. *Odd Fall.*

ARC 4322L CAH-SVAD 6(0,9)
Architectural Design 7: PR: ARC 3321L. Control over architectural processes to solve design needs through appropriate program development and construction technology. Complete building as a final product, emphasizing on urban and suburban housing projects. *Odd Fall.*

ARC 4323L CAH-SVAD 6(0,9)
Architectural Design 8: PR: ARC 4322L. Architecture designs focus on architectural detail and articulation. An investigation of landscape provides the context for this study. *Even Spring.*

ARC 4620 CAH-SVAD 3(3,0)
Environmental Technology 2: CR: ARC 4322L. PR: ARC 3610 or C.I. Fundamentals of architectural lighting, acoustics, electrical power distribution and building communications. *Odd Fall.*

ARE 2000 ED-TL&L 3(3,0)
Early Childhood Art and Creativity: An examination of developmental patterns in children's artistic behaviors and appropriate instructional strategies to be implemented. *Occasional.* M&S fee \$5.00

ARE 3935 CAH-SVAD 12(0,12)
Community Arts Internship: PR: C.I. An on-site in-depth experience for community arts majors with a concentration in administration, education, or therapeutic experience. *Occasional.*

ARE 3944 CAH-SVAD 3(2,3)
Community Arts Practicum: PR: C.I. A supervised experience for students to facilitate art programming in a variety of community settings. *Occasional.*

ARE 4250 ED-TL&L 3(3,0)
Art for Exceptionalities: PR: Admission to the College of Education, Art Education Program or C.I. Concepts, principles, and methods of integrating art processes into the education of students with physical, emotional, and mental exceptionalities. *Spring.*

ARE 4260 CAH-SVAD 3(3,0)
Methods in Art Administration: PR: ARH 3820. Theories and methodologies for designing, implementing and administering art programs for a variety of populations. *Occasional.*

ARE 4351 ED-TL&L 3(3,0)
Teaching Art in the Elementary School: PR: Admission into the Art Education Program or Art Education Minor. Transition from university art studio practices to public school teaching of art. Organizing, designing and analyzing art experiences, activities and classroom environments for the elementary school classroom. *Fall.* M&S fee \$5.00

ARE 4352 ED-TL&L 3(2,1)
Teaching Art in the Secondary School: PR: Admission into the Art Education program or Art Education Minor. Transition from university art studio practices to High School Teaching of art. Organizing, designing and analyzing art experiences and activities appropriate for junior high and high school children. Examination of teaching methodology relative to the high school and junior high school settings. *Spring.* M&S fee \$5.00

ARE 4356 ED-TL&L 3(3,1)
Teaching Art Appreciation & Criticism in the Classroom: PR: ARH 2050 and ARH 2051. An examination of art appreciation programs and concepts toward planning curriculum for the study of art history, popular art, art criticism, and aesthetics for specific educational settings. *Fall.* M&S fee \$8.00

UCF Courses and Descriptions

ARE 4453 ED-TL&L 3(3,0)
Studio Experiences in Art Education: PR: Admission into the College of Education, Art Education Program required or C.I. Materials available for instruction in public schools will be explored in depth in relation to their appropriateness and productive qualities. May be used in the degree program a maximum of 3 times. *Spring.* M&S fee \$5.00

ARE 5251 ED-TL&L 3(2,1)
Art for Exceptionalities: Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped. *Occasional.*

ARE 5255 ED-TL&L 3(2,1)
Arts in Recreation: Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas. *Occasional.*

ARE 5359 ED-TL&L 4(4,0)
Teaching Art K-12: PR: Admission to MA in Art Education, graduate standing or C.I. Transition from university art practices to public school teaching of art. Organize, design, and analyze art learning for students K-12. *Occasional.* M&S fee \$5.00

ARE 5454 ED-TL&L 3(3,0)
Studio Experiences in Art Education: PR: Graduate admission or C.I. Materials available for instruction in public schools will be explored in depth in relation to their appropriateness and productive qualities. May be repeated for credit. *Spring.* M&S fee \$10.00

ARE 5648 ED-TL&L 3(3,0)
Contemporary Visual Arts Education: PR: Graduate standing or C.I. Continued study of current programs and innovations in public school Visual Arts Programs. *Occasional.*

ARH 2050 CAH-SVAD 3(3,0)
History of Western Art I: Painting, sculpture and architecture from the Prehistoric Era through the Renaissance. *Fall.*

ARH 2050H CAH-SVAD 3(3,0)
Honors History of Western Art I: PR: Permission of Honors. Painting, sculpture and architecture from the Prehistoric Era through the Renaissance, with honors content. *Occasional.*

ARH 2051 CAH-SVAD 3(3,0)
History of Western Art II: Painting, sculpture and architecture from the Baroque through the 20th century. *Spring.*

ARH 2051H CAH-SVAD 3(3,0)
Honors History of Western Art II: PR: Permission of Honors. Painting, sculpture and architecture from the Baroque through the 20th century, with honors-level content. *Occasional.*

ARH 2500 CAH-SVAD 3(3,0)
History of Non-Western Art: Major visual arts in various non-Western cultures. *Fall, Spring.*

ARH 3471 CAH-SVAD 3(3,0)
Art in the Last 25 Years: PR: ARH 2050 and ARH 2051 or C.I. A seminar for upper-level art students to examine current trends in the visual arts. *Occasional.*

ARH 3610 CAH-SVAD 3(3,0)
American Art: PR: ARH 2050 and ARH 2051 or C.I. Surveys American Art to 1900. Leading artists are identified and representative examples of their work are discussed within the context of major themes, patterns, sources. *Occasional.*

ARH 3631 CAH-AS 3(3,0)
African-American Art: PR: ENC 1102 or C.I. Historical survey of art produced by working artists of African heritage and representations of African-American life by these and other artists. *Occasional.*

ARH 3632H CAH-SVAD 3(3,0)
Honors African American Arts Seminar: PR: Permission of Honors. An exploration of traditional, academic, and contemporary urban African American visual arts. *Occasional.*

ARH 3670 CAH-SVAD 3(3,0)
20th Century Latin American Art: PR: ARH 2050 and ARH 2051 or C.I. Art of the modern era (1820 to 1980) in the Caribbean and South America; issues and characteristics of art as they reflect the cultural evolution of Latin America. *Occasional.*

ARH 3673 CAH-SVAD 3(3,0)
Modern Art of Mexico: PR: ARH 2050 or ARH 2051 or C.I. Modern art of Mexico from the Mexican Academy post-independence to the 1980's. *Occasional.*

ARH 3674 CAH-SVAD 3(3,0)
Latin American Popular Visual Culture: PR: ANT 4332 or C.I. Latin American popular culture beyond "fine art," produced in Latin America, the United States, and the Caribbean. *Odd Spring.*

ARH 3683 CAH-SVAD 3(3,0)
Southern Folk Arts: PR: Junior Standing or C.I. This course will explore contemporary issues related to folk art including definition, collecting, marketing, art criticism, tradition, innovation, and its relationship to the so-called fine arts and popular arts. *Occasional.*

ARH 3710 CAH-SVAD 3(3,0)
History of Photography I: PR: Junior Standing or C.I. History of still photography from its earliest inception to 1900. The content of this course is designed for art majors. *Occasional.*

ARH 3713 CAH-SVAD 3(3,0)
20th Century Photographic History: PR: Junior Standing. The history of the evolution of still photography from the early 20th Century to contemporary practice. *Occasional.*

ARH 3720 CAH-SVAD 3(3,0)
History of Prints: PR: ARH 2050 and ARH 2051 or C.I. History of printmaking in the Western world, surveying works by the "great printmakers." *Occasional.*

ARH 3728 CAH-SVAD 3(3,0)
History of Illustration: PR: ARH 2050 and ARH 2051. Western illustration from ancient and medieval manuscripts through nineteenth century cartoon, caricature, book, magazine illustration, and advertising. *Occasional.*

ARH 3820 CAH-SVAD 3(3,0)
Visual Arts Administration Vitas: PR: Junior Standing or C.I. Grant applications; Personnel; copyright laws; museum practices, etc. *Occasional.*

ARH 3842 CAH-SVAD 3(3,0)
Art History Abroad: Italy: PR: ARH 2050 and ARH 2051 or C.I. Meets in Italy and explores Italian art, architecture, artists, patrons, and culture from the Roman period through the late Baroque. *Occasional.*

ARH 3888 CAH-SVAD 3(3,0)
Art of Walt Disney: PR: ENC 1102 or C.I. Examines the animation, art, and architecture of Disney. *Occasional.*

ARH 4130 CAH-SVAD 3(3,0)
Greek Art and Architecture: PR: ARH 2050 and ARH 2051. Examines the art and architecture of ancient Greece from the Bronze Age through the end of the Hellenistic period. *Occasional.*

ARH 4150 CAH-SVAD 3(3,0)
Roman Art and Architecture: PR: ARH 2050 and ARH 2051. Examines Roman art and architecture from its Etruscan origins through Constantine. *Occasional.*

ARH 4200 CAH-SVAD 3(3,0)
Medieval Art: PR: ARH 2050 and ARH 2051. Medieval Art from the 6th through 14th centuries, including painting, architecture, sculpture and illuminated manuscripts. *Occasional.*

ARH 4310 CAH-SVAD 3(3,0)
Italian Renaissance Art: PR: ARH 2050 and ARH 2051 or C.I. Italian Art and architecture from 1300 to 1600. *Occasional.*

ARH 4316 CAH-SVAD 3(3,0)
Great Masters: daVinci, Michelangelo, and Raphael: PR: ARH 2050, ARH 2051, and ARH 4310. Examines at length three artists considered to be Great Masters: daVinci, Michelangelo, and Raphael. *Occasional.*

ARH 4350 CAH-SVAD 3(3,0)
Baroque Art: PR: ARH 2050 and ARH 2051 or C.I. A study of European Art in the 17th and 18th centuries. *Occasional.*

ARH 4352 CAH-SVAD 3(3,0)
Italian Baroque Art: PR: ARH 2050 and ARH 2051. Examines the art and architecture of the Baroque period in Italy from 1600-1750. *Occasional.*

ARH 4430 CAH-SVAD 3(3,0)
19th Century Art: PR: ARH 2050 and ARH 2051. A survey of the trends and developments in art during the 19th century, including the art of America and of Western Europe. *Occasional.*

ARH 4450 CAH-SVAD 3(3,0)
20th Century Art: PR: ARH 2050 and ARH 2051 or C.I. A survey of the art from Fauvism, Futurism, Cubism to the art of the present. *Occasional.*

ARH 4540 CAH-SVAD 3(3,0)
Art of India: PR: Junior Standing or C.I. Art and architecture of India from prehistoric times through the Gupta, Rajput, and Muslim periods. *Occasional.*

ARH 4653 CAH-SVAD 3(3,0)
Meso American Art: PR: Junior Standing or C.I. A survey of the art of Mexico and Central America, from the Pre-Colombia, through the Spanish Colonial, to the 20th century. *Occasional.*

ARH 4800 CAH-SVAD 3(3,0)
Theory and Criticism of the Visual Arts: PR: ARH 2050 and ARH 2051 or C.I. Explores criteria of art criticism and theoretical approaches to art meaning through time; art examples from various periods/cultures. *Occasional.*

ARH 4871 CAH-SVAD 3(3,0)
Women in Art: PR: ARH 2050 and ARH 2051 or C.I. A survey of women artists from ancient times to the present as well as a study of the role Aesthetics and Ideology have played in determining representations of women in art. *Occasional.*

ARH 5897 CAH-SVAD 3(3,0)
Advanced Seminar in Art History: PR: ARH 2050 and ARH 2051 or C.I. Research methods on various topics including: major artist, monument, cultural period or theme. *Occasional.*

ART 2201C CAH-SVAD 3(2,4)
Design Fundamentals-Two Dimensional: PR: C.I. Priority given to students whose major requires this course. Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory. *Fall, Spring.* M&S fee \$15.00

ART 2201C CAH-SVAD 3(2,4)
Honors Design Fundamentals-Two Dimensional: PR: ART 2823. Priority given to students whose major requires this course. Permission of Honors. Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory with Honors content. *Occasional.*

ART 2203C CAH-SVAD 3(2,4)
Design Fundamentals-Three Dimensional: PR: C.I. Priority given to students whose major requires this course. Basic three-dimensional design using the various sculptural media. *Fall, Spring.* M&S fee \$45.00

ART 2300C CAH-SVAD 3(2,4)
Drawing Fundamentals I: PR: C.I. Priority given to students whose major requires this course. Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques. *Fall, Spring.* M&S fee \$10.00

ART 2300C CAH-SVAD 3(2,4)
Honors Drawing Fundamentals I: PR: ART 2823 and Consent of Honors. Priority given to students whose major requires this course. Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques. With Honors content. *Occasional.* M&S fee \$10.00

UCF Courses and Descriptions

ART 2301C CAH-SVAD 3(2,4)
Drawing Fundamentals II: PR: ART 2300C or C.I. Priority given to students whose major requires this course. Continuation of ART 2300C. *Fall, Spring.* M&S fee \$10.00

ART 2400C CAH-SVAD 3(2,4)
Beginning Printmaking: Basic elements and techniques of printmaking covered. Relief, intaglio, and lithography. Assignments include practical application of printmaking as drawing tool. *Occasional.*

ART 2500C CAH-SVAD 3(2,4)
Beginning Painting: PR: ART 2300C, ART 2201C, or C.I. Methods and materials of the painter. Introduction to the problems in painting. *Occasional.* M&S fee \$15.00

ART 2701C CAH-SVAD 3(2,4)
Sculpture: PR: Three semester hours in three-dimensional work, ART 2201C, ART 2203C, ART 2300C, ART 2301C. The challenge of communicating ideas through three-dimensional forms. *Odd Fall.* M&S fee \$35.00

ART 2754C CAH-SVAD 3(2,4)
Beginning Ceramics: PR: ART 2201C or C.I. Basic concepts of ceramic design, experience in processes of forming, decorating, glazing, and firing pottery. *Fall, Odd Spring.* M&S fee \$35.00

ART 2823 CAH-SVAD 3(3,0)
Art as Interface: An overview of art department specializations, and selected historical and theoretical information influencing the art curriculum. Examination of aesthetic characteristics shared by the various disciplines and how knowledge of these data is used by the profession to share information with the community. *Fall, Spring.*

ART 3161 CAH-SVAD 3(3,0)
Mixed Media: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C. Concepts and techniques involving the creation of art objects by integrating painting, sculpture, drawing, design, and art history. *Occasional.*

ART 3170C CAH-SVAD 3(2,4)
Book Binding: PR: ART 2201C, ART 2203C, and ART 2823. Basic book binding techniques, methods, structures, and production of books. *Occasional.* M&S fee \$44.00

ART 3171C CAH-SVAD 3(2,4)
Materials for Artist Books: PR: ART 2201C, ART 2203C, and ART 3170C. Production of materials used for an artist in the creation of books. *Occasional.* M&S fee \$32.00

ART 3175C CAH-SVAD 3(2,4)
Advanced Issues in Contemporary Book Arts: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, and ART 3170C. Drawing, printmaking, and painting combined with guided research at the Orlando Museum of Arts culminating in a handbound Visual Book. *Occasional.* M&S fee \$44.00

ART 3176C CAH-SVAD 3(2,4)
The Illuminated Book: PR: ART 2201C, ART 2300C, ART 2300C, ART 2301C, and ART 3170C. The creation of visual, illuminated responses to language from stories, fables, poetry, and books using a variety of media. *Occasional.* M&S fee \$45.00

ART 3223C CAH-SVAD 3(2,4)
Honors Applied Design Lab: PR: Consent of Honors. Designing three-dimensional projects for real world clients. With Honors Content. *Occasional.*

ART 3321C CAH-SVAD 3(2,4)
Drawing Intensive: PR: Any 2000 level Art History. Drawing concepts and techniques emphasizing observation from still life and the human figure to prepare students for Sophomore portfolio review. *Occasional.*

ART 3332C CAH-SVAD 3(2,4)
Intermediate Drawing: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, and a satisfactory portfolio review or C.I. Intermediate problems in drawing, with emphasis on the human form. *Fall, Spring.*

ART 3433C CAH-SVAD 3(2,4)
Screenprinting: PR: ART 2201C, ART 2300C, ART 2400C. Techniques of waterbase screenprinting, including digital/photo processes and practical applications of screenprinting as a means for image making. *Occasional.*

ART 3504C CAH-SVAD 3(2,4)
Intermediate Painting: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C. Reinforces and extends methods and materials content of ART 2500C, and deals with issues of figurative painting. *Fall, Even Spring.* M&S fee \$15.00

ART 3616C CAH-SVAD 3(3,0)
Animation Production Methods: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, C.I. The development of a computer animation piece. All aspects of production will be covered. May be repeated for credit. *Occasional.*

ART 3618 CAH-SVAD 3(3,0)
Post-Production Design: PR: Sophomore Portfolio and "C" or better in FIL 3720C. Special effects and compositing for computer animation and film. Focus on the use of After Effects, Premier and Photoshop software. *Occasional.*

ART 3643C CAH-SVAD 3(2,4)
Digital Effects & Compositing: PR: DIG 3951 and declared Character Animation specialization, or ART 3950 and DIG 4780c and declared Experimental Animation specialization. Special effects and compositing for computer animation and film, focusing on the use of After Effects, Premier and Photoshop or comparable software. *Fall.*

ART 3709C CAH-SVAD 3(2,4)
Intermediate Sculpture: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 2701C, and successful portfolio review. Examines the concepts of three-dimensional forms. *Fall, Spring.* M&S fee \$45.00

ART 3737C CAH-SVAD 3(2,4)
Narrative Sculpture: PR: ART 2201C, ART 2203C, ART 2300C, and ART 2301C. Aesthetics of sculpture incorporating narrative content and referencing historical contexts. May be repeated for credit. *Occasional.*

ART 3761C CAH-SVAD 3(2,4)
Intermediate Ceramics: PR: ART 2201C, ART 2203C, ART 2300C and ART 2301C. Continuation of ceramic processes. *Fall, Spring.* M&S fee \$35.00

ART 3764C CAH-SVAD 3(2,4)
Ceramic Handbuilding I: PR: Junior standing. Application of a variety of ceramic handbuilding procedures, including design, glaze application and firing process. *Occasional.* M&S fee \$35.00

ART 3824 CAH-SVAD 3(3,0)
Japanese Manga & Anime: PR: ENC 1102 or C.I. Explores the real and imaginary robotic beings inhabiting the fictional worlds of Japanese Anime and Manga. *Occasional.*

ART 3833C CAH-SVAD 3(2,4)
Honors Processes and Ideas in Art: PR: Junior Standing and Consent of Honors. Generation of new insights concerning artistic expression with an emphasis on the individual creation of visual art objects. With Honors content. *Occasional.*

ART 3833C CAH-SVAD 3(4,2)
Processes and Ideas in Art: PR: Junior Standing. This course emphasizes the development of individual creativity and the generation of new insights concerning artistic expression. These "formative activities" must be manifested by students in the form of small sculptures and/or other forms of creativity. *Occasional.*

ART 3950 CAH-SVAD 0(0,0)
Portfolio Review: PR: ARH 2050, ARH 2051, ART 2823, ART 2201C, ART 2203C, ART 2300C, and ART 2301C. Determines competencies in studio foundations work. Satisfactory completion of portfolio review is required to enroll in upper division studio classes. Graded S/U. *Fall, Spring.*

ART 3951C CAH-SVAD 3(2,4)
Design Intensive: PR: Any 2000 level Art History. Interdisciplinary design course emphasizing visual literacy skills and finished design projects with real world clients. Course covers two and three dimensional design content. *Occasional.*

ART 4172C CAH-SVAD 3(2,4)
Book Repair and Restoration: PR: ART 2201C, ART 2203C, and ART 3170C. Mending, repairing, and rebinding books from the Library and Special Collections. *Occasional.*

ART 4173C CAH-SVAD 3(2,4)
The Artist Book: PR: ART 2201C and ART 2203C. Definition of book from traditional hand-made to contemporary artist book. Redefining the elements, structure and content of books and the binding and printing methods in book production. *Occasional.* M&S fee \$28.00

ART 4174C CAH-SVAD 3(2,4)
The Printed Book: PR: ART 2201C, ART 2203C, ART 2300C, and ART 2301C. Aesthetics of the printed book including binding techniques to make artist books. *Occasional.* M&S fee \$23.00

ART 4177C CAH-SVAD 3(2,4)
Commercial Book Design and Publishing: PR: ART 2823 and Junior standing or C.I. Analysis of art and design elements and their interpretation from a historical perspective. *Occasional.*

ART 4226C CAH-SVAD 3(3,3)
Post Production for Animators: PR: FIL 3734C. Concepts and tools for finishing computer and traditional animations on film and video. Emphasis on compositing tools to combine elements in a finished animation. *Occasional.*

ART 4320C CAH-SVAD 3(2,4)
Advanced Drawing: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 3332C. May be repeated for credit. *Fall, Spring.*

ART 4402C CAH-SVAD 3(2,4)
Advanced Printmaking: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, and a satisfactory portfolio review or C.I. Advanced process in printmaking. May be repeated for credit. *Even Fall, Spring.* M&S fee \$30.00

ART 4505C CAH-SVAD 3(2,4)
Advanced Painting: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 3504C, and a satisfactory portfolio review or C.I. Advanced problems in painting. May be repeated for credit. *Fall, Spring.* M&S fee \$15.00

ART 4634C CAH-SVAD 3(3,1)
Web Art: PR: ART 2823 or C.I. The Web as a medium for art. *Occasional.*

ART 4644C CAH-SVAD 3(2,4)
Books Without Books: PR: ART 2201C, ART 2203C, ART 2300C, and ART 2301C. The use of technology for alternative presentation of sequential ideas in space and time. May be repeated for credit. *Occasional.*

ART 4710C CAH-SVAD 3(2,4)
Advanced Sculpture: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 2701C, and a satisfactory portfolio review or C.I. The challenge of communicating concepts through three-dimensional forms. May be repeated for credit. *Fall, Spring.* M&S fee \$45.00

ART 4765C CAH-SVAD 3(2,4)
Ceramic Handbuilding II: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 2754C, and a satisfactory portfolio review or C.I. Technical skills in manipulating form, function, volume, color and surface texture. *Occasional.* M&S fee \$35.00

ART 4780C CAH-SVAD 3(2,4)
Kiln Design and Building: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 3761C, ART 4783C, and a satisfactory portfolio review or C.I. The design and construction of kilns, use of refractory materials, and the theory of efficient fuel combustion. *Occasional.* M&S fee \$35.00

ART 4783C CAH-SVAD 3(2,4)
Advanced Ceramics: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 3761C, and a satisfactory portfolio review or C.I. Advanced problems in the ceramic process. May be repeated for credit. *Fall, Spring.* M&S fee \$35.00

ART 4786C CAH-SVAD 3(2,4)
Ceramic Raw Material: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, ART 3761C, and a satisfactory portfolio review or C.I. An in-depth understanding of the singular and diverse properties of clay and glaze materials. *Occasional.* M&S fee \$35.00

UCF Courses and Descriptions

ART 4935 CAH-SVAD 3(3,0)
BFA Exhibit/Seminar: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, must complete Studio course for BFA, and a satisfactory portfolio review or C.I. This course is designed to prepare B.F.A. students for B.F.A. Exhibition. *Spring.* M&S fee \$15.00

ART 4945C CAH-SVAD 3(2,4)
Advanced Design Lab: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, and a satisfactory portfolio review (ART 3950) or C.I. Students design and develop visual solutions for real world clients in partnership with industry. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

ART 4954 CAH-SVAD 3(3,0)
Scotland Study Abroad: PR: ART 2823, ART 2201C, ART 2301C or C.I. Study abroad in Edinburgh, Scotland. May be repeated for credit. *Occasional.*

ART 4971 CAH-SVAD 3(2,4)
Senior Thesis: PR: Senior Standing, Art major, and C.I. A capstone thesis for Art Animation majors. May be repeated for credit. *Occasional.*

ART 5280 CAH-SVAD 3(3,0)
Serial Content: PR: Admission to Emerging Media MFA or Digital Media M.A., graduate standing, or C.I. Serial content, story forms, interactive narrative theory and practice for art, digital media and film. Traditional and non-traditional forms of visual and interactive storytelling. *Fall.* M&S fee \$45.00

ART 5284 CAH-SVAD 3(3,0)
Design Theory and Methods: PR: Admission to MFA or C.I. Introduction to semiotic theory, communication theory, perceptual codes, human factors and visual rhetoric. *Fall.* M&S fee \$45.00

ART 5670C CAH-SVAD 3(2,4)
Digital Illustration: CR: ART 6683C. Methods and media effects usually associated with traditional illustration in a digital platform. *Spring.*

ART 5694 CAH-SVAD 3(3,0)
Crosscultural Electronic Art and Design: PR: Admission to MFA. Explores digital/electronic art and technology from mid 20th century to present. Explores key electronic artists and issues of the "arts electronica" into the present. *Spring.*

ART 5695 CAH-SVAD 3(3,0)
WebArt I: PR: Admission to MFA. Students will explore the web and experiment with pertinent software, as well as design and implement websites. Projects will be determined at the outset of each semester. *Spring.* M&S fee \$45.00

ART 5696 CAH-SVAD 3(3,0)
Art, Design and Human Interactions: PR: Admission to MFA. Exploration and design of interface interactions systems and technologies in contemporary society and culture including place making, way finding, electronic interface design, and publication design. *Spring.*

ART 5698 CAH-SVAD 3(3,0)
Concourse I: PR: ART 5910 and ART 5280 and ART 5694, or C.I. Digital reproduction of studio works. *Fall.* M&S fee \$45.00

ART 5811C CAH-SVAD 3(3,1)
The Professional Practice of Art: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C (no graduate level prerequisite), graduate status or senior standing, or C.I. Seminar class on political information pertaining to professional practices in the art world. Overview of inventory processing, accounting, and the marketing of art. *Fall.* M&S fee \$45.00

ART 5910 CAH-SVAD 3(3,0)
Studio Concentration I: PR: Admission to MFA. Course is the primary for production of work in studio. Students will meet periodically with faculty to discuss progress. Professor will meet with the whole class periodically in order to facilitate a group critique of work completed. May be used in the degree program a maximum of 3 times. *Fall, Spring.* M&S fee \$45.00

ART 5941 CAH-SVAD 1(1,0)
Graduate Practicum I: PR: Web Art I, graduate status, or C.I. Candidates with cross-disciplinary interests will discuss and analyze issues in digital art making via the internet. Students will use this information to develop projects in their specialization. *Occasional.*

ASH 3222 CAH-HIST 3(3,0)
Islam and Its Empires: PR: Junior standing or C.I. History of the Middle East and North Africa from the birth of Islam to the 16th century. *Occasional.*

ASH 3223 CAH-HIST 3(3,0)
The Modern Middle East: PR: Junior standing or C.I. History of the Middle East and North Africa from the 16th century to the present. *Occasional.*

ASH 4233 CAH-HIST 3(3,0)
Ottoman Empire: PR: WOH 2012 and WOH 2022. History of the Ottoman Empire from its origins in the 13th century to its collapse after WWI. *Occasional.*

ASH 4243 CAH-HIST 3(3,0)
History of Iraq: PR: WOH 2012 and WOH 2022. Modern Iraqi history through a set of interrelated monographic studies that focus on the political and legal components of the Iraqi state. *Occasional.*

ASH 4304 CAH-HIST 3(3,0)
Women in China: PR: AMH 2010 and AMH 2020, or EUH 2000 and EUH 2001, or WOH 2012 and WOH 2022. Historical changes and continuities in experiences of Chinese women during the traditional period, the modern era and contemporary times. *Occasional.*

ASH 4324 CAH-HIST 3(3,0)
History & Culture of South Asia: PR: WOH 2022 or C.I. History and culture of South Asia from prehistory to decline of the British Raj. *Occasional.*

ASH 4383 CAH-HIST 3(3,0)
Imperialism & Decolonization in South Asia: PR: WOH 2022 or C.I. Socio-cultural, economic and political impact of imperialism and the subsequent decolonization in South Asia. *Occasional.*

ASH 4402 CAH-HIST 3(3,0)
History of Chinese Civilization: PR: EUH 2000 and EUH 2001, or WOH 2012 and WOH 2022. Chinese history from its pre-historical genesis until the 18th century. *Occasional.*

ASH 4404 CAH-HIST 3(3,0)
Modern China: PR: EUH 2000 and EUH 2001 or C.I. Political, social, economic, and cultural transformations undergone by China from about the 17th century to the present. *Occasional.*

ASH 4442 CAH-HIST 3(3,0)
Modern Japan: PR: EUH 2000 and EUH 2001 or C.I. History of Japan from the end of the Tokugawa period to the present day. *Occasional.*

ASH 4550 CAH-HIST 3(3,0)
History of Modern India: PR: WOH 2022 or C.I. History of India from decline of Mughlas in late 18th century to present. *Occasional.*

ASH 5229 CAH-HIST 3(3,0)
History of the Middle East: PR: Graduate standing or C.I. Selected topics in the history of the modern Middle East. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

ASH 5408 CAH-HIST 3(3,0)
Colloquium in Modern China: PR: Graduate status or senior standing or C.I. Course explores works of scholarship in modern China including the rise of Communism, Chinese women and Sino-American relations. *Occasional.*

ASH 5485 CAH-HIST 3(3,0)
U.S. China Relations: PR: Graduate standing or C.I. An in-depth study of the significant relations between China and the United States since the 18th century. *Even Fall.*

ASH 5925 CAH-HIST 3(3,0)
Colloquium in South Asian History: PR: Graduate standing or C.I. Addresses key themes in South Asian history through selected readings. May be used in the degree program a maximum of 3 times only when course content is different. *Occasional.*

ASL 2140 HPA-COM SC&DIS 4(4,0)
Introduction to American Sign Language: Development of ASL vocabulary and grammar. Deaf culture, literature, research examined. *Fall, Spring.*

ASL 2150 HPA-COM SC&DIS 4(4,0)
Intermediate American Sign Language: PR: ASL 2140. Expansion of ASL vocabulary with increased development of knowledge concerning Deaf culture. *Fall, Spring.*

ASL 2510 HPA-COM SC&DIS 3(3,0)
Issues of Deafness: PR: C.I. The impact of deafness on individual, family and social problems in the deaf community and culture, including historical and changing attitudes toward persons and disabilities. *Occasional.*

ASL 4161C HPA-COM SC&DIS 4(3,1)
American Sign Language III: PR: ASL 2150. Conversation. Emphasis on refining fluency receptively and expressively. Practicum with the deaf community. *Occasional.*

ASL 4201 HPA-COM SC&DIS 4(4,0)
American Sign Language IV: PR: ASL 4161C or consent of instructor. Advanced study in complex grammar, facial expression, metaphorical and idiomatic vocabulary, emphasizing production of non-voiced, conversational, spontaneous signed sentences, "reading" signed phrases and sentences. *Occasional.*

AST 2002 COS-PHYS 3(3,0)
Astronomy: PR: High school algebra or MAC 1105C. Descriptive survey of solar system, galaxies and universe; physical properties of stars, H-R diagram, stellar evolution, black holes, neutron stars. *Fall, Spring.*

AST 2022H COS-PHYS 3(3,0)
Honors Astronomy: PR: Permission of Honors. Descriptive survey of solar system, galaxies and universe; physical properties of stars, H-R diagram, stellar evolution, black holes, neutron stars. Honors level content. *Occasional.*

AST 2002L COS-PHYS 1(0,3)
Astronomy Lab: CR: AST 2002. Laboratory experiments covering selected topics in astronomy related to AST 2002. *Occasional.* M&S fee \$9.00

AST 2037 COS-PHYS 3(3,0)
Life in the Universe: A thought provoking journey through solar system environments and extrasolar planets to establish the probability of life on other planets in our solar system and beyond. *Occasional.*

AST 3110 COS-PHYS 3(3,0)
Solar System Astronomy: PR: AST 2002, PHY 2053C. Interdisciplinary approach to the dynamics of the Solar System through application of Physics, Atmospheric Science, Chemistry and Geology. *Even Fall.*

AST 3211 COS-PHYS 3(3,0)
Stellar Astrophysics: PR: AST 2002 and PHY 3101. The physics and dynamics of stars, including star formation and stellar evolution. *Occasional.*

AST 3402 COS-PHYS 3(3,0)
Galaxies and Cosmology: PR: AST 2002 and PHY 2048C. Study of the different types of galaxies, their evolution, their relationship to active galaxies and quasars, and the evolution of the universe. *Odd Fall.*

AST 3722C COS-PHYS 3(3,0)
Techniques of Observational Astronomy: PR: AST 2002, PHY 2048C. Fundamental principles and techniques used in planning, reducing, and analyzing modern astronomical observations. Numerical treatment of photometry, spectroscopy, and CCD images. *Even Spring.*

AST 4142 COS-PHYS 3(3,0)
Asteroids, Comets, and Meteorites: PR: AST 2002, AST 3110, and AST 3211. Asteroids, comets, and meteorites and their role in the origin and evolution of our solar system. *Occasional.*

UCF Courses and Descriptions

AST 4152 COS-PHYS 3(3,0)
Planetary Geophysics: PR: AST 2002, PHY 2053C, and Senior standing, or C.I. Physics of planetary evolution, planetary interiors, and planetary surface processes. *Even Fall.*

AST 4700 COS-PHYS 3(3,0)
Experimental Methods in Astronomy: PR: AST 2002, PHY 2048, and Senior standing, or C.I. Experimental design and experimental techniques in astronomy and astrophysics; spherical astronomy; physics of telescopes and of common astronomical detectors; astronomical quantification and interpretation of light. *Even Spring.*

AST 4762C COS-PHYS 3(3,1)
Astronomical Data Analysis: PR: MAC 2313, ability to write simple computer programs, and an upper level course in astronomy or planetary science, or C.I. Astronomical data formation and acquisition, detector physics, measurement extraction, error analysis, modeling, computer programming, statistics, interpretation, and written and oral presentation of results. *Fall.*

AST 5145 COS-PHYS 3(3,0)
Advanced Asteroids, Comets, and Meteorites: PR: Graduate standing or C.I. An advanced study of physical, chemical, mineralogical and orbital characteristics of Asteroids, Comets and Meteorites, with an emphasis on the origin of our solar system. *Odd Spring.*

AST 5154 COS-PHYS 3(3,0)
Advanced Planetary Geophysics: PR: Admission to Physics MS or PhD or C.I. The physics of planetary evolution, planetary interiors, and planetary surface processes. *Even Fall.*

AST 5165 COS-PHYS 3(3,0)
Planetary Atmospheres: PR: PHY 3220 and PHY 3101, graduate status or senior standing, or C.I. This course will examine the physical and chemical processes that govern the behavior of the atmosphere of Earth and the other planets. *Even Spring.*

AST 5263 COS-PHYS 3(3,0)
Advanced Observational Astronomy: PR: Graduate standing in the Physics department or C.I. Experimental design and experimental techniques in astrophysics; spherical astronomy; physics of telescopes and of common astronomical detectors; error analysis. *Even Spring.*

AST 5334 COS-PHYS 3(3,0)
Extrasolar Planets and Brown Dwarfs: PR: Admission to Physics M.S. or Physics Ph.D., or C.I. Substellar-mass objects, their formation, evolution, dynamics, detection, and environments. *Odd Spring.*

AST 5765C COS-PHYS 3(3,1)
Advanced Astronomical Data Analysis: PR: MAC 2313, a 3000-level or higher course in astronomy or planetary science, ability to write simple computer programs, or C.I. Advanced astronomical data formation and acquisition, detector physics, measurement extraction, error analysis, modeling, computer programming, statistics, interpretation, and written and oral presentation of results. *Fall.*

ATR 2010C ED-E&HS 3(2,1)
Athletic Injuries: Mechanisms and Prevention: PR: PET 3005. The prevention, identification, care, and rehabilitation of human injuries. *Fall/Spring.*

ATR 3012C HPA-HP 3(1,2)
Clinical Skills for Athletic Trainers I: PR: ZOO 3733C or ZOO 3736C, and Athletic Training majors only or C.I. Clinical skills including functional knowledge of lower extremity/trunk muscle, tendon, and ligament anatomy; advanced taping and bracing skills; and clinical assessment of general medical conditions. *Fall.* M&S fee \$31.00

ATR 3013C HPA-HP 3(1,2)
Clinical Skills for Athletic Training II: PR: ZOO 3733C or ZOO 3736C, and Athletic Training majors only or C.I. Clinical skills, including functional knowledge of upper extremity muscle, tendon, ligament anatomy; advanced taping and bracing skills; and pharmacological interventions. *Spring.* M&S fee \$31.00

ATR 3102 HPA-HP 3(3,0)
Principles of Athletic Training: PR: ZOO 3733C or ZOO 3736C; PCB 3703C; and Athletic Training majors only or C.I. Athletic training principles including injury recognition, emergency care, bloodborne pathogens, rehabilitation and prevention. *Occasional.*

ATR 3203C HPA-HP 3(2,1)
Upper Extremity Function and Measurement: PR: ZOO 3733C or ZOO 3736C and COHPA majors and Health Sciences Minors only. Upper extremity functional anatomy, manual muscle testing and goniometry. *Spring.*

ATR 3204C HPA-HP 3(2,1)
Lower Extremity Function and Measurement: PR: ZOO 3733C or ZOO 3736C and COHPA majors and Health Sciences Minors only. Lower extremity functional anatomy, manual muscle testing and goniometry. *Fall.*

ATR 3212C HPA-HP 3(2,2)
Recognition and Evaluation of Athletic Injuries I: PR: ATR 3102. Recognition and evaluation skills required to perform an injury/illness assessment of the lower extremity and spine and provide immediate management. *Fall.*

ATR 3312C HPA-HP 3(2,1)
Injury, Management, and Rehabilitation: PR: ZOO 3733C or ZOO 3736C; COHPA Students only or C.I. Recognition and management of common injuries found in active populations. Therapeutic modalities and therapeutic exercise are integrated through the course. *Fall.*

ATR 3812L HPA-HP 4(0,16)
Practicum in Athletic Training I: PR: ATR 3102. Clinical introduction to an athletic training site under direct supervision of a certified athletic trainer. *Fall/Spring.*

ATR 3822L HPA-HP 4(0,16)
Practicum in Athletic Training II: PR: ATR 3812L. Continuation of clinical practicum under direct supervision of certified athletic trainer. *Fall/Spring.*

ATR 4014C HPA-HP 3(2,2)
Principles of Athletic Training Lab: CR: ATR 3102, PR: Athletic Training majors only or C.I. Basic athletic training skills including emergency care, taping and wrapping, goniometry and manual muscle testing. *Occasional.* M&S fee \$34.00

ATR 4103 HPA-HP 3(3,0)
Case Studies in Sports Medicine: PR: ATR 4832L. Presentation and treatment of various sports injuries. *Spring.*

ATR 4112L HPA-HP 1(0,1)
Acute Care in Athletic Training: CR: ATR 4842L and PR: ATR 4832L. This course will review and update student knowledge of and competency with acute care procedures and emergency planning in athletic settings. *Spring.*

ATR 4132 ED-E&HS 3(3,0)
Human Injuries: Mechanisms & Prevention: PR: Admission to the Sport and Exercise Science Program or Coaching Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent, and minimum overall 2.5 GPA. Study of human movement and analysis of techniques for the prevention and treatment of human injuries associated with sport and fitness. *Fall/Spring.*

ATR 4213C HPA-HP 3(2,2)
Recognition and Evaluation of Athletic Injuries II: PR: ATR 3102. Recognition and evaluation skills required to perform an injury/illness assessment of the upper extremity, head and neck, and general medical conditions and provide immediate management. *Spring.*

ATR 4302C HPA-HP 4(2,4)
Therapeutic Modalities in Athletic Training: PR: ATR 4213C. Principles and techniques for applying therapeutic modalities. *Occasional.* M&S fee \$5.00

ATR 4313C HPA-HP 4(2,4)
Therapeutic Exercise in Athletic Training: PR: ATR 3212C. Rehabilitation processes regarding exercise progression for athletic injury *Occasional.*

ATR 4315C HPA-HP 3(1,2)
Advanced Rehabilitation in Athletic Training: PR: Athletic Training majors only. ATR 4313C or C.I. Advanced knowledge, skills, and techniques that the certified athletic trainer must perform during rehabilitation of injuries. *Fall.* M&S fee \$17.00

ATR 4512C HPA-HP 3(3,0)
Organization and Administration of Athletic Training: PR: ATR 3822L. Administrative knowledge in the athletic training profession. *Fall.*

ATR 4832L HPA-HP 4(0,16)
Practicum in Athletic Training III: PR: ATR 3822L. Advanced clinical internship with increased responsibilities under the supervision of a certified athletic trainer. *Fall/Spring.*

ATR 4842L HPA-HP 4(0,16)
Practicum in Athletic Training IV: PR: PET 4672C. Advanced clinical internship with increased responsibilities under the supervision of a certified athletic trainer. *Fall/Spring.*

ATR 4933 HPA-HP 1(1,0)
Athletic Training Seminar: PR: ATR 4832L and Senior standing. Capstone course reviewing competencies, proficiencies, ethics and professional development for the entry-level athletic trainer. *Spring.*

ATR 4940 HPA-HP 0-4(0,1-15)
Athletic Training Elective Internship: PR: ATR 3822L. Students will develop their knowledge, skills, and attitudes by providing direct care of athletic injuries; understand the medical delivery system in a variety of settings; and understand the legal and ethical aspects of practicing athletic training. *Occasional.*

BCH 4024 COM-BSBS 4(4,0)
Medical Biochemistry: PR: CHM 2210 and CHM 2211. Structure/function of proteins and nucleic acids fundamental to biomedical science, biochemical concepts important in medicine, enzymology and kinetics, bioenergetics and metabolic processes and disorders. *Spring.*

BCH 4053 COS-CHEM 3(3,0)
Biochemistry I: PR: CHM 2211. A consideration of proteins, carbohydrates, nucleic acids, enzymes and their effect on biochemical systems, and inter-relationship of intermediary metabolism. *Fall/Spring.*

BCH 4053H COS-CHEM 3(3,0)
Honors Biochemistry I: PR: CHM 2211 and consent of Honors. Proteins, carbohydrates, nucleic acids, enzymes and their effect on biochemical systems, and inter-relationship of intermediary metabolism. With Honors content. *Occasional.*

BCH 4054 COS-CHEM 3(3,0)
Biochemistry II: PR: BCH 4053. Continuation of BCH 4053. *Spring.*

BCH 4103L COS-CHEM 2(0,6)
Biochemical Methods: PR: BCH 4053. A laboratory course stressing the application of the chemical arts to the separation, identification, and quantification of materials of biological significance. *Spring.* M&S fee \$70.00

BME 3211 ECS-MECH/AERO 3(3,0)
Engineering Biomechanics: PR: EGN 3310 and (EGN 3321 or EML 3217) and EGM 3601. Knowledge of engineering approaches and tools that are used in the different aspects of biomechanics. *Odd Fall.*

BME 5140 ECS-MECH/AERO 3(3,0)
Materials Science of Instrumentation for Clinical Applications: PR: General graduate standing in Engineering, Biomedical Science, Biotechnology, Chemistry or related disciplines or C.I. Study of engineering and materials concepts behind the clinical diagnostics currently used and under development, as well as technologies utilized in fabrication and characterization of these devices. *Odd Fall.*

BME 5267 ECS-MECH/AERO 3(3,0)
Biofluid Mechanics: PR: EML 3701 and EGM 3601 or C.I. This course will cover the physical and mathematical principals of fluid mechanics and its application and relevance to human physiology and pathology. *Fall.*

UCF Courses and Descriptions

BME 5268C ECS-MECH/AERO 3(2,2)
Applied and Computational Biofluids: PR: EML 3701 and EGM 3601 or C.I. Principles and foundations of applied fluid mechanics and computational methods to the human circulation. *Spring*.

BME 5572 ECS-ECE 3(3,0)
Biomedical Nanotechnology: PR: EEL 3123C with a "C" (2.0) or better grade. Human Physiology, Bioelectric Phenomena and Neurons, Nanoelectronics for fabrication of biochips for human biomedical applications, self-assembly, bioelectronics, moral and ethical issues. *Spring*.

BOT 3018C COS-BIOL 3(1,2)
Culinary Botany Across the Cultures: PR: BOT 3802, Junior standing, or C.I. Cultural food traditions and the connections between plants, people and health; examines the preparation methods that enhance the nutritional values. *Occasional*. M&S fee \$10.00

BOT 3152C COS-BIOL 3(1,4)
Local Flora: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Recognition and identification of Florida higher plants, especially those common to central Florida, stressing environmental and ethnobotanical significance. Weekend field trips may be required. *Occasional*.

BOT 3802 COS-BIOL 3(3,0)
Ethnobotany: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Historical and modern uses of plants economically important in various cultures. *Spring*.

BOT 4223C COS-BIOL 4(3,3)
Plant Anatomy: PR: BOT 3802, or C.I. A study of development, structure and function of the principal organs and tissue of vascular plants. *Occasional*.

BOT 4303C COS-BIOL 5(3,6)
Plant Kingdom: PR: BOT 3802, or C.I. A survey of the plant kingdom utilizing comparative morphology, structure and functions to demonstrate relationships among extant and extinct forms. *Occasional*. M&S fee \$40.00

BOT 4434C COM-BSBS 4(3,1)
General Mycology: PR: BSC 2010C, MCB 3020C or BSC 2011C. This course is a survey of the Kingdom Fungi, covering the major topics of fungal diversity, structure, genetics, physiology, practical applications and pathogenicity. *Occasional*. M&S fee \$42.00

BOT 4503 COS-BIOL 3(3,0)
Plant Physiology: PR: A "C" (2.0) or better in PCB 3023 or C.I. A Study of mechanisms used by plants to cope with the environment. *Occasional*.

BOT 4713C COS-BIOL 5(3,6)
Plant Taxonomy: PR: BOT 3802, or C.I. Systematic classification and identification of vascular plants, with emphasis on the flora of peninsular Florida. *Occasional*. M&S fee \$45.00

BOT 4850 COS-BIOL 3(3,0)
Medicinal Botany: PR: PCB 3522 or a "C" (2.0) or better in PCB 3023, or C.I. The medicinal properties of plants and their role in both traditional and modern medicine; history of herbal medicine and alternative medicinal practices around the world. *Even Fall*.

BSC 1005 COS-BIOL 3(3,0)
Biological Principles: A study of various biological factors which affect the health and survival of man in modern society. Designed for non-majors. *Fall, Spring*.

BSC 1005L COS-BIOL 1(0,2)
Biological Principles Laboratory: CR: BSC 1005. The laboratory to accompany BSC 1005. *Fall, Spring*.

BSC 2010C COS-BIOL 4(3,3)
Honors General Biology: PR: Permission of Honors. Priority given to students whose major requires this course. Basic principles and unifying concepts of modern biology. Introduction to quantitative experimentation using intensive, open-ended labs. *Fall, Spring*. M&S fee \$24.00

BSC 2010C COS-BIOL 4(3,2)
Biology I: PR: High school biology or C.I. Open only to students whose major requires this specific course. Cellular and chemical basis of life, genetics, and the theory of evolution. Emphasis on problem solving, analysis, synthesis of information, and applying data effectively. *Fall, Spring*. M&S fee \$2.00

BSC 2011C COS-BIOL 4(3,3)
Biology II: PR: A "C" (2.0) or better in BSC 2010C or C.I. Preference will be given to students whose program requires this course. Continuation of BSC 2010C. Organismal anatomy and physiology as it relates to biodiversity, ecology and evolution. Emphasis on problem solving, analysis, synthesis of information, and applying data effectively. *Fall, Spring*. M&S fee \$2.00

BSC 3052 COS-BIOL 3(3,0)
Conservation Biology: PR: or CR: A minimum grade of "C" (2.0) in PCB 3044 or C.I. Science, history and principles of conservation biology. *Occasional*.

BSC 3312 COS-BIOL 3(3,0)
Principles of Marine Biology: PR: A minimum grade of "C" (2.0) in both BSC 2010C and BSC 2011C. Provides students with a foundation in the field of marine biology using a global perspective. *Even Fall*.

BSC 3402C COS-BIOL 4(1,3)
Integrative Biology: PR: BSC 2010C and BSC 2011C each with a "C" (2.0) or better, and C.I. A field-based course gathering information on natural history of various organisms in Florida, with special emphasis on scientific methods. *Occasional*.

BSC 3403C COM-BSBS 4(3,4)
Honors Quantitative Biological Methods: PR: Consent of Honors, BSC 2010C, MCB 3020C, CHM 2046. A laboratory course which presents the concepts, modern methods, techniques and instrumentation used in quantitative biological and molecular biological experimentation. Honors level content. *Fall*.

BSC 3403C COM-BSBS 4(3,4)
Quantitative Biological Methods: PR: BSC 2010C, MCB 3020C, CHM 2046. A laboratory course which presents modern methods and instrumentation used in quantitative biological experimentation. *Fall, Spring*. M&S fee \$59.00

BSC 3424 COM-BSBS 3(3,0)
Nanobiotechnology: PR: MCB 1310, and either CHM 2046 or PHY 2054C. Biological processes in nano scale interactions with elements of physics & engineering. *Occasional*.

BSC 3843L COS-BIOL 2(0,2)
Strategies for Biology Academic Mentoring: PR: Junior or senior standing. Review research findings, theory, models and techniques of academic counseling and career advising. Graded S/U. May be used in the degree program a maximum of 2 times. *Occasional*.

BSC 3949 COS-BIOL 0(0,8)
Cooperative Education in Biology: PR: Departmental permission required before registering. Cooperative education experience in biology. Graded S/U. May be repeated. *Occasional*.

BSC 4312C COS-BIOL 4(3,3)
Advanced Marine Biology: PR: BSC 3312 and a "C" (2.0) or better in PCB 3044. An advanced treatment of current issues in marine biology, emphasizing biodiversity and marine conservation through research, service-learning and field experiences. *Even Spring*. M&S fee \$45.00

BSC 4330 COS-BIOL 3(3,0)
Invasion Biology: PR: A "C" (2.0) or better in PCB 3044, or C.I. General principles of invasion ecology. The study of addition of species into ecosystems as it provides insights into basic ecological and evolutionary questions. *Even Spring*.

BSC 4422L COS-BIOL 1-4(0,3-12)
Biology Laboratory Techniques: PR: CHM 2210 and a "C" (2.0) or better in PCB 3044, or C.I. Individual and small group instruction in current laboratory techniques beyond the scope of typical Biology laboratories. Graded S/U. May be repeated for credit. *Occasional*.

BSC 4434 COM-BSBS 3(3,0)
Biomedical Informatics: Sequence Analysis: PR: PCB 3522 or PCB 3023 or C.I. Introduction of useful bioinformatics tools and resources on sequence analysis. *Fall*.

BSC 4439 COM-BSBS 3(3,0)
Biomedical Informatics: Structure Analysis: PR: PCB 3522 or PCB 3023 or C.I. Introduction of useful bioinformatics tools and resources on RNA and protein structure analysis. *Spring*.

BSC 4445C COS-BIOL 4(1,3)
Genomics Lab: Methods in Data Collection and Analysis: PR: A grade of a "B" (3.0) or better in PCB 3063 and completion of EHS Lab Safety Training online course and practical by end of add/drop, or instructor consent. Hands-on approach to understanding how genomic datasets are generated in the lab, and how they are analyzed computationally using bioinformatics pipelines. *Fall*.

BSC 4821 COS-BIOL 4(4,0)
Biogeography: PR: A "C" (2.0) or better in both PCB 3044 and PCB 4683, or C.I. Study of geographic variation in nature, ranging from past to present and genes to ecosystems. *Occasional*.

BSC 4861L COS-BIOL 3(0,3)
SL Sustainability: Socially & Economically Viable Environmental Protection: PR: A "C" (2.0) or better in BSC 2010C or C.I. A service-learning course utilizing an interdisciplinary approach to developing models and implementing programs designed to result in environmental sustainability. *Occasional*.

BSC 4937 COS-BIOL 2(0,2)
Instructional Experiences in Undergraduate Biology: PR: PCB 3063. Biology major with 80 semester hours and 3.0 gpa. Preparation of undergraduate students to more effectively learn biological concepts by facilitating learning in variety of university biology labs. Graded S/U. May be repeated for credit. *Fall, Spring*.

BSC 5258L COS-BIOL 3(0,3)
Tropical Biology Research and Conservation: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Research and conservation in New World tropics, including a field trip to Belize. Tropical biodiversity and forest ecology, integrating conservation strategies in research and communication. *Occasional*.

BSC 5316 COS-BIOL 3(3,0)
Marine Conservation Biology: PR: BSC 4312C Marine Biology, graduate standing, or C.I. Examine human impacts in marine ecosystems and how humans can become better stewards of these habitats. *Odd Spring*.

BSC 5332 COS-BIOL 3(3,0)
Invasion Biology: PR: PCB 3044 or C.I. The three stages of biological invasion (introduction, establishment and spread) as well as impacts on native species and ecosystems. *Even Spring*.

BSC 5408L COS-BIOL 3(0,9)
Advanced Biology Laboratory Techniques: PR: BS degree, C.I. This course will emphasize those biological techniques and resources necessary for students about to begin thesis research. Individual and small group instruction in current laboratory techniques, literature searches, and hands-on practice of techniques will be stressed. May not be repeated for credit. *Occasional*.

BSC 5418 COM-BSBS 3(3,0)
Tissue Engineering: PR: Graduate standing. Introduction to Tissue Engineering with a special emphasis on the current status of the field, on novel methods and on cell biomaterial interactions. *Occasional*.

BSC 5436 COM-BSBS 3(3,0)
Biomedical Informatics: Structure Analysis: PR: PCB 3522 or equivalent or C.I. Introduction of bioinformatics tools and resources on RNA and protein structure analysis. *Fall*.

BSC 5618 COS-BIOL 3(3,0)
Phylogenetic Approaches in Biological Research: PR: Admission to Biology Department graduate program or C.I. A multidisciplinary approach to understanding evolutionary relationships among organisms using phylogenetic information to address important questions in biology. *Even Fall.*

BSC 5824 COS-BIOL 4(4,0)
Biogeography: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate In Conservation Biology, PSM in Conservation Biology, or C.I. Study of geographic variation in nature, ranging from past to present and from genes to ecosystems. *Even Spring.*

BTE 4410 ED-CFCS 3(3,0)
Course Construction in Business Education: PR: ECT 3365 or C.I. An overview and examination of business curriculum and methodology integrated into the workforce frameworks. Planning and preparation of materials, managing the laboratory and involvement in career & technical student organizations. *Occasional.*

BUL 3130 BA-ACCT 3(3,0)
Legal and Ethical Environment of Business: PR: Completion of each course in the Business common program prerequisites with a "C" (2.0) or better. Analysis of the law as a dynamic social and political institution in the business environment, including contract law, torts, and ethical consideration. *Fall, Spring.*

BUL 3130H BA-ACCT 3(3,0)
Honors Legal & Ethical Environment of Business: PR: Junior standing and business major or minor, permission of Honors. Analysis of the law as a dynamic social and political institution in the business environment, including ethical considerations with honors level content. *Occasional.*

BUL 4540 BA-MAN 3(3,0)
Employment Law: PR: Management major or minor, MAN 3025 and MAN 3301. An examination of current employment law and issues/trends in the legal environment impacting human resource management system design, HRM policy and employee relations. *Fall.*

BUL 5332 BA-ACCT 3(3,0)
Advanced Business Law Topics: PR: Admission to graduate program, or Management major or minor in term of graduation, BUL 3130. Advanced business law topics including coverage of the Uniform Commercial Code, torts, commercial paper, and secured transactions. *Fall, Spring.*

BUL 5810 BA-ACCT 3(3,0)
Legal and Social Environment of Business: PR: Admission to graduate program. Analysis of the legal and ethical environment of business, the effects of legislation and regulation on business activity, and the role of law and ethics in the decision-making process. *Occasional.*

CAP 4053 ECS-CS 3(3,0)
AI for Game Programming: PR: COP 3502C with a grade of "C" (2.0) or better or C.I. Surveys cutting-edge AI techniques for video games and board games and contrasts them with more traditional approaches. *Spring.*

CAP 4102 ECS-EECS 3(3,0)
IT Design and User Experience: PR: CGS 2545C and CIS 3003. To meet a real world customer's needs, student teams will learn and apply user-centered principles to elicit requirements, prototype, and build a complete web-based solution. *Even Fall.*

CAP 4104 ECS-CS 3(3,0)
Human and Technology Interaction: PR: COP 3330 and COP 3502C each with a grade of "C" (2.0) or better. Perceptual, cognitive, affective, social, organizational, commercial, and cultural factors. Disciplines, techniques and methodologies. Web, mobiles, and wearables. Embodied conversational agents. Elderly, disabled and special needs. *Fall.*

CAP 4453 ECS-CS 3(3,0)
Robot Vision: PR: COP 3503C and MAC 2312 each with a grade of "C" (2.0) or better or C.I. Perspective and orthographic projections; the processing of edges, regions, motion, shading, texture, object detection, recognition, and machine learning. *Fall, Spring.*

CAP 4630 ECS-CS 3(3,0)
Artificial Intelligence: PR: COP 3503C with a grade of "C" (2.0) or better and COT 3960. Current methods in AI: knowledge-based systems, representation, inference, planning, natural language. Programming in Lisp or Prolog required. *Fall.*

CAP 4720 ECS-CS 3(3,0)
Computer Graphics: PR: COP 3503C and MAC 1114C each with a grade of "C" (2.0) or better, and COT 3960. Math for computer graphics, visibility and shading, graphics and data structure, curves and surfaces, commodity graphics hardware, and graphics API. *Occasional.*

CAP 5055 ECS-CS 3(3,0)
AI for Game Programming: PR: CS Foundation Exam or EEL 4851C or C.I. Surveys cutting-edge AI techniques for video games and board games and contrasts them with more traditional approaches. *Spring.*

CAP 5100 ECS-CS 3(3,0)
Human-Computer Interface Design: PR: COP 4331C, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Focuses on dynamics of human-computer interaction. Provides a comprehensive overview of HCI design as a software discipline. Features a user-centered approach to Web-based application design. *Fall.*

CAP 5415 ECS-CS 3(3,0)
Computer Vision: PR: COP 3503C, MAC 2312 and COT 3960. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation. *Fall.*

CAP 5510 ECS-CS 3(3,0)
Bioinformatics: PR: Background in programming language or molecular biology. This course introduces problems, concepts, algorithms, and applications in Bioinformatics. It covers essential topics such as sequence alignment and prediction of gene and protein structure. *Occasional.*

CAP 5512 ECS-CS 3(3,0)
Evolutionary Computation: PR: CAP 4630 or COP 3503C or C.I. This course covers the field of evolutionary computation, focusing on the theory and application of genetic algorithms. *Spring.*

CAP 5610 ECS-CS 3(3,0)
Machine Learning: PR: CAP 4630 or C.I. Origin/evaluation of machine intelligence; machine learning concepts and their applications in problem solving, planning and "expert systems" symbolic role of human and computers. *Occasional.*

CAP 5636 ECS-CS 3(3,0)
Advanced Artificial Intelligence: PR: CAP 4630. AI theory of knowledge representation, "expert systems", memory organization, problem solving, learning, planning, vision, and natural language. *Fall.*

CAP 5725 ECS-CS 3(3,0)
Computer Graphics I: Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems. *Spring.*

CAP 5738 ECS-EECS 3(3,0)
Visualization Techniques for Data Analysis: PR: COP 3330, COP 3502C. Techniques for visualization that are useful for analyzing and presenting quantitative information are covered. Projects analyze one or more real-world publicly-available datasets. Understanding the data, visualizing it, creating hypotheses, and visually exploring them. Application of statistical techniques to test hypotheses about data trends and visualize how well their hypotheses match with their analysis. *Fall, Spring.*

CCE 4003 ECS-CECE 3(3,0)
Introduction to the Construction Industry: PR: EGN 3613, EGN 3310 all with a grade of "C" (2.0) or better. Project delivery systems, construction contracts; estimating and scheduling; ethics and labor issues. *Fall, Spring.*

CCE 4004 ECS-CECE 3(3,0)
Construction Methods: PR: CES 4100C with a grade of "C" (2.0) or better. Construction methods for civil and structural systems, design of temporary structures, safety, and building codes. *Spring.*

CCE 4034 ECS-CECE 3(3,0)
Construction Estimating and Scheduling: PR: CCE 4003 with a grade of "C" (2.0) or better. Construction project estimating and bidding and the preparation of construction schedules, followed by in-depth coverage of time and cost control, and risk management. *Fall.*

CCE 4402 ECS-CECE 3(3,0)
Construction Equipment and Productivity: PR: CCE 4003, CWR 3201 both with a grade of "C" (2.0) or better. Selection of appropriate equipment based on operational parameters, principles of construction productivity measurement and analysis, process design, and discrete event simulation. *Spring.*

CCE 4810C ECS-CECE 3(2,2)
Construction Design Project: PR: CCE 4034, CCE 4004, CCE 4813 all with a grade of "C" (2.0) or better, and department consent; CR: CCE 4402. The preparation and development of a proposal and plan for a construction project, including construction engineering systems, site facilities, construction methods, coordination, leadership, and control. *Fall, Spring.*

CCE 4813 ECS-CECE 4(4,0)
Mechanical and Electrical Systems for Buildings: PR: CCE 4003, PHY 2049C, CWR 3201 all with grades of "C" (2.0) or better. Design and construction of mechanical and electrical systems for buildings. *Fall.*

CCE 5006 ECS-CECE 3(3,0)
Infrastructure Systems Management: PR: CCE 4004 and CCE 4034, or C.I. Essential elements of infrastructure systems and cover concepts, methods, and technologies essential for infrastructure life cycle engineering and management. *Fall, Spring.*

CCE 5205 ECS-CECE 3(3,0)
Decision Support for Infrastructure Projects: PR: CCE 4004 and CCE 4034, or C.I. Infrastructure decision-making theories, data representation for decision analysis, advanced methods in decision-making, and applications of decision support systems in infrastructure projects. *Fall, Spring.*

CCE 5220 ECS-CECE 3(3,0)
Sustainable Infrastructure Systems: PR: STA 3032. Introduce the principles of sustainability as they relate to the built environment and infrastructure systems; sustainability metrics; life cycle assessment; resilience; green building principles. *Spring.*

CCJ 3014 HPA-CJ 3(3,0)
Crime in America: PR: Sophomore standing and ENC 1102. A survey of crime and criminality in the United States, with emphasis on crime data, its weaknesses, and types of criminal behavior. *Fall, Spring.*

CCJ 3024 HPA-CJ 3(3,0)
Criminal Justice System: PR: Sophomore standing and ENC 1102. An examination of the components and of their interdependence in light of their traditional autonomy. *Fall, Spring.*

CCJ 3450 HPA-CJ 3(3,0)
The Criminal Justice Manager: PR: CCJ 3024 or C.I. Elements of first-line supervision and executive development. Administrative leadership; its nature; methods, and traits. Recent theories and research in leadership. *Occasional.*

CCJ 3451 HPA-CJ 3(3,0)
Justice System Technology: PR: CCJ 3024 or C.I. Examination of the relevance of scientific and technological developments to justice systems and their applicability to the operations and management of the systems. *Occasional.*

CCJ 3483 HPA-CJ 4(4,0)
Labor Relations in Criminal Justice: PR: CCJ 3024 and CCJ 3450 or C.I. Examine the role of public sector labor relations in criminal justice to include management-employee relationships, collective bargaining process, employee organizations, and federal-state laws. *Occasional.*

CCJ 3667 HPA-CJ 3(3,0)
Victims and the CJ System: PR: CCJ 3024 or declared Victim Advocacy Certificate or C.I. Course examines Victims as they affect the Criminal Justice system, the dimensions of criminal victimization, and victim offender programs. *Occasional.*

UCF Courses and Descriptions

CCJ 4035 HPA-CJ 3(3,0)
Crime and the Media: PR: CCJ 3024 or C.I. Explore how the criminal justice system, criminals, and crime are portrayed in the media and its impact on society and the criminal justice system. *Fall, Spring.*

CCJ 4054 HPA-CJ 3(3,0)
Criminal Justice Ethics: PR: Junior Standing. Focuses on the ethical issues and problems commonly encountered in the criminal justice system (policy courts and corrections). *Occasional.*

CCJ 4064 HPA-CJ 3(3,0)
Criminal Justice Dimensions of Genocide: PR: CCJ 3014 or C.I. Elements of Criminal Justice approach to genocide, including theories, precursors, case studies, organization, legal outcomes, and criminal justice majors' roles in studying and preventing genocide. *Occasional.*

CCJ 4076 HPA-CJ 3(3,0)
Crime Intelligence and Investigative Support Analysis: PR: Junior Standing. Provides an understanding of basic crime intelligence and investigative support analytical tools and information management systems employed to assist law enforcement. *Occasional.*

CCJ 4129 HPA-CJ 3(3,0)
Cultural Diversity in Criminal Justice: PR: CCJ 3024 or (declared Victim Advocacy Certificate & Junior Standing) or C.I. This course focuses on the problems and issues associated with race, ethnic and gender relations in the administration of justice in a democratic society. *Occasional.*

CCJ 4195 HPA-CJ 3(3,0)
Interviews & Interrogations in CJ: PR: CCJ 3024 or (Criminal Profiling or Crime Scene Investigation certificate declared & Junior standing) or C.I. The criminal justice interview process including history of criminal justice interviews, the use of Miranda, non-verbal listening, and the rules of testimonial evidence. *Fall, Spring.*

CCJ 4296 HPA-CJ 3(3,0)
Famous Crimes & Trials: PR: CCJ 3014 or CCJ 3024 or consent of instructor. A detailed examination of selected famous American crimes and trials since 1900. *Occasional.*

CCJ 4361 HPA-CJ 3(3,0)
Death Penalty: PR: Sophomore standing and ENC 1102. This course provides students an opportunity to analyze and discuss complex issues surrounding the death penalty and the criminal justice system. *Occasional.*

CCJ 4641 HPA-CJ 3(3,0)
Organized Crime: PR: Sophomore standing and ENC 1102. An examination of organized crime, including structures, history and activities, and of issues surrounding efforts to define and control it. *Occasional.*

CCJ 4644 HPA-CJ 3(3,0)
White Collar Crime: PR: CCJ 3014 or C.I. Classic definitions and statements on white collar crime concepts, concepts and criminal activities, types of fraud, investigations, environmental crime, and corporate crime. *Occasional.*

CCJ 4651 HPA-CJ 3(3,0)
Drugs and Crime: PR: Sophomore standing and ENC 1102. Focuses on the problems of drugs and drug control in contemporary society. Students will examine the problems of drugs in our society as well as specific strategies used by criminal justice agencies to prevent and control illicit drug use. *Fall, Spring.*

CCJ 4670 HPA-CJ 3(3,0)
Women and Crime: PR: Sophomore standing and ENC 1102. This course covers women in criminal justice as offenders and prisoners, as well as crime victims and professionals working in the system. *Occasional.*

CCJ 4677 HPA-CJ 3(3,0)
Human Rights and Criminal Justice: PR: CCJ 3024 or C.I. In-depth analysis of human rights movement and its potential impact upon criminal law, as well as the juvenile and criminal justice system. *Occasional.*

CCJ 4681 HPA-CJ 3(3,0)
Domestic Violence and the Justice System: PR: CCJ 3024 or (declared Victim Advocacy Certificate & Junior standing) or C.I. Study of the nature and causes of forms of domestic violence, pertaining to laws, prevention strategies, and justice system response. *Occasional.*

CCJ 4690 HPA-CJ 3(3,0)
Sex Offenders and the Criminal Justice System: PR: (Junior standing and CCJ 3024 and CJ majors) or (Junior standing and Criminal Profiling or Victim Advocacy certificate declared) or C.I. Provides students a better understanding of how the criminal justice system deals with sex offenders and their offenses. *Fall, Spring.*

CCJ 4694 HPA-CJ 3(3,0)
Human Trafficking and Criminal Justice: PR: CCJ 3024 or C.I. Human trafficking from the global, national and local criminal justice perspectives. *Occasional.*

CCJ 4701 HPA-CJ 3(3,0)
Research Methods in Criminal Justice: PR: CCJ 3014 and CCJ 3024, or C.I. Overview of the social science research methodology used in criminal justice, covers the major forms of research designs used by social science and evaluates their strengths and weaknesses. *Fall, Spring.*

CCJ 4746 HPA-CJ 3(3,0)
Data Analysis for Criminal Justice: PR: CCJ 4701, and a grade of "C" or better in MAC 1105 or MGF 1106 or higher-level math class, or AA Degree, or C.I. Analytical methods useful for examining the types of data most often encountered in criminal justice research and develops the knowledge and understanding necessary to comprehend and interpret basic statistics in criminal justice research, literature and reports. *Fall, Spring.*

CCJ 4934 HPA-CJ 1-3(1-3,0)
Emergent Criminal Justice Issues: PR: Sophomore Standing and ENC 1102. Developing trends and issues in criminal justice facing administrators, practitioners, and researchers. May be repeated for credit. *Occasional.*

CCJ 5015 HPA-CJ 3(3,0)
The Nature of Crime: PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course provides an overview of major dimensions of crime in the U.S.; epidemiology of crime, costs of crime, and typologies of crime and criminals. *Occasional.*

CCJ 5456 HPA-CJ 3(3,0)
The Administration of Justice: PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. This course provides an overview of the criminal justice system and a critical analysis of formal and informal processing of offenders by criminal justice agencies. *Fall, Spring.*

CCJ 5931 HPA-CJ 3(3,0)
Contemporary Criminal Justice Strategies: PR: Graduate standing or C.I. Graduate level analysis of contemporary crime issues and the reactions of the criminal justice system to combat those crimes at both the national and international levels. May be used in the degree program a maximum of 3 times. *Occasional.*

CCJ 5934 HPA-CJ 1(1,0)
Criminal Justice Investigative Process: PR: Graduate standing or C.I. Advanced seminar providing students with a broad view of how the criminal justice investigative process operates. Focus on the roles and responsibilities of agents as investigators. May be used in the degree program a maximum of 3 times only when course content is different. *Occasional.*

CDA 3103C ECS-CS 3(3,1)
Computer Logic and Organization: PR: COP 3223C with a grade of "C" (2.0) or better; CR: COT 3100C or MHF 3302 or MAD 2104. Logic design, computer arithmetic, Instruction Set Architecture (MIPS, SPIM simulator), performance, data path, control unit, memory hierarchy, I/O interface. *Fall, Spring.*

CDA 5106 ECS-CS 3(3,0)
Advanced Computer Architecture: PR: EEL 4768C. Modern processor design, instruction-level parallelism, thread-level parallelism, data-level parallelism, memory hierarchy, and I/O. *Fall, Spring.*

CDA 5110 ECS-CS 3(3,0)
Parallel Architecture and Algorithms: PR: COT 4210, CDA 5106. General-purpose vs. special-purpose parallel computers; arrays, message-passing; shared-memory; taxonomy; parallelization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring. *Occasional.*

CEG 4011C ECS-CECE 4(3,2)
Geotechnical Engineering I: PR: EGN 3331C and CWR 3201 both with a grade of "C" (2.0) or better. Engineering properties and classification of soils. Design considerations for compaction, seepage, consolidation, and settlement analysis. *Fall, Spring.* M&S fee \$21.00

CEG 4012 ECS-CECE 3(3,0)
Geotechnical Engineering II: PR: CEG 4011C with a grade of "C" (2.0) or better. Consolidation, shear strength, earth pressures and retaining walls, bearing capacity, foundation considerations, and slope stability. *Fall, Spring.*

CEG 4801C ECS-CECE 3(2,2)
Geotechnical Engineering Design: PR: CEG 4012 with a grade of "C" (2.0) or better and department consent. Project course on design of foundations and other soil structures using geotechnical design methodologies. *Fall, Spring.* M&S fee \$14.00

CEG 5405 ECS-CECE 3(3,0)
Seepage in Soils: PR: CEG 4011C. Principles of flow through soils; flow nets, analytical solutions; seepage forces, design of filters and drainage layers; dewatering, drainage in dams, embankments, and pavement systems. *Even Spring.*

CEN 3024 ECS-ECS 3(3,0)
Software Development I: PR: COP 3330 or C.I. Software development concepts are introduced in the context of hands-on project implementation. SDLC, version control, design with UML, documentation, testing, 2&3-tier architecture. *Spring.*

CEN 4025 ECS-ECS 3(3,0)
Software Development II: PR: CEN 3024 or C.I. A continuation of Software Development I with larger and more complex projects. Enterprise-level applications are covered including distributed and web-based systems using n-tier architecture. *Fall.*

CEN 4333 ECS-ECS 3(3,0)
Advanced Database Development: PR: COP 3330 or C.I. Professional-level database access from object-oriented systems, including complex SQL queries and stored procedures. Use of object-relational frameworks. Hands-on exercises with current RDBMS software. *Spring.*

CEN 4350 ECS-ECS 3(3,0)
Open Source Web Technologies: PR: COP 3330 or C.I. Web application development using currently popular open-source/open-standard tools. User-interface, the business layer, database, and deploying to the web-server. *Spring.*

CEN 4360 ECS-ECS 3(3,0)
Mobile Device Software Development: PR: COP 3330 or C.I. Concepts and practice of software development for mobile devices. User interface, data persistence, data communication, use of APIs for sound, mapping, GPS, sensors, etc. *Fall.*

CEN 4370 ECS-ECS 3(3,0)
.NET Software Development using C#: PR: COP 3330 or C.I. .NET Windows and Web application development. Use of the .NET Framework class library. N-tier architecture. User interface, collections, database connectivity, and deployment. *Spring.*

CEN 4802 ECS-ECS 3(3,0)
Software Integration, Configuration, and Testing: PR: CEN 3024 or equivalent or C.I. Addresses approaches and issues associated with integration of software subsystems and components into one system to ensure that the subsystems function together. *Fall.*

CEN 4910 ECS-ECS 3(3,0)
Software Development Project: PR: CEN 4025 or C.I. A software development project using the skills acquired from Software Development I & II. Working in teams, students develop a software system, simulating an industry experience. *Spring.*

CEN 5016 ECS-CS 3(3,0)
Software Engineering: PR: COP 4331C. Application of formal software processes, engineering methods, and documentation standards to the development of large scale software systems. A team project is required. *Spring.*

CES 4100C ECS-CECE 4(3,3)
Structural Analysis I and Lab: PR: EGN 3331C and CGN 3405 both with grades of "C" (2.0) or better. Topics in structural mechanics, analysis of determinate and indeterminate structures by flexibility and stiffness methods computer and laboratory exercises on behavior of structures and materials. *Fall, Spring.* M&S fee \$21.00

CES 4205 ECS-CECE 3(3,0)
Structural Mechanics: PR: EGN 3331C and EGN 3343 both with grades of "C" (2.0) or better. Advanced mechanics of materials applied to civil structural systems, elasticity, torsion, inelastic bending, failure theory for concrete and soils, compatibility, equilibrium, and energy methods. *Spring.*

CES 4605 ECS-CECE 3(3,0)
Steel Structures: PR: CES 4100C with a grade of "C" (2.0) or better. Design of structural steel members and buildings; emphasis on AISC-ASD building code; introduction to AISC-LRFD building code; tension and compression members, beams, beam-columns, connections. *Fall, Spring.*

CES 4702 ECS-CECE 3(3,0)
Reinforced Concrete Structures: PR: CES 4100C with a grade of "C" (2.0) or better. Design of RC members using ACI code; beam flexure and shear; compression bending; bond and development; introduction to continuous frames. *Fall, Spring.*

CES 4743C ECS-CECE 3(2,2)
Structural Design: PR: CES 4605 and CES 4702 both with grade of "C" (2.0) or better and department consent. This course prepares students for real life structural design with the fundamentals and applications of both steel and concrete analysis and design at the member and system level. *Fall, Spring.* M&S fee \$24.00

CES 5144 ECS-CECE 3(3,0)
Matrix Methods for Structural Analysis: PR: CES 4100C or C.I. Implementation of the matrix methods for structural analysis that are commonly and currently used in practice and in research, special topics such as finite element formulations, special analysis procedures, and use of software packages. *Even Fall.*

CES 5325 ECS-CECE 3(3,0)
Bridge Engineering: PR: CES 4605 and CES 4702 or C.I. Bridge engineering fundamentals, design philosophies, analysis and design concepts for concrete and steel bridges, AASHTO specifications, Bridge rating, and introduction to Bridge health monitoring. *Occasional.*

CES 5606 ECS-CECE 3(3,0)
Advanced Steel Structures: PR: CES 4605. Behavior and design of steel buildings; emphasis on AISC-LRFD building code; complex connections, tension members, stability of compression members, laterally unsupported beams, frames, and beam columns. *Occasional.*

CES 5706 ECS-CECE 3(3,0)
Advanced Reinforced Concrete: PR: CES 4702 or C.I. Design of frames, two-way floor systems, shear walls; shear and torsion; compression field theory; inelastic analysis; wind and seismic design; introduction to prestressed concrete. *Occasional.*

CES 5821 ECS-CECE 3(3,0)
Masonry and Timber Design: PR: C.I. Structural properties of masonry and timber; design loads-codes and standards; analysis for axial loads, flexure and shear. *Occasional.*

CET 3010 ECS-ECS 3(3,0)
Introduction to Information Technology: PR: MAC 1105C. An introduction to IT field, including binary representation, graphics, data compression, information theory, transmission and storage technology, and communications. *Fall, Spring.*

CET 3383 ECS-ECS 3(3,0)
Applied Systems Analysis I: PR: Approved programming course or C.I. Study of system analysis, design, development and implementation cycle. Includes Object Oriented Programming (OOP) to implement system programs. *Spring.*

CET 4427 ECS-ECS 3(3,0)
Applied Database I: PR: Approved programming course or C.I. Design and implementation of data base systems within the concept of central administration, structured data storage. Programming project. *Fall.*

CET 4483 ECS-ECS 3(3,0)
Intro to Local Area Network Technology: PR: Approved programming course or C.I. An introductory level course in local area networks. Topics in data communications, computer networking, local area network technology, topologies, and protocols will be covered. *Spring.*

CET 4505 ECS-ECS 3(3,0)
Applied Operating Systems I: PR: CET 2364. Modifying the operating systems to support new types of devices. Analysis of limitations and strengths of commercial mass storage operating systems in industry. O.S. tool box usage. May be repeated for credit. *Fall.*

CET 4663 ECS-ECS 3(3,0)
Computer and Network Security: PR: CET 4483, MAC 1105C. Fundamentals of computer security technology, including cryptography, authentication, digital signatures, and network security tools and applications. *Spring.*

CET 4748 ECS-ECS 3(3,0)
Wide Area Networks I: PR: CET 4483 or C.I. Designing Wide Area Networks; determining requirements, designing the networks, structure, choosing appropriate technologies, and evaluating results. *Fall.*

CET 4749 ECS-ECS 3(3,0)
Wide Area Networks II: PR: CET 4748. Traffic and cost generators. Access network design. Multi-speed access designs. Multilocal-access and mesh network design. *Spring.*

CGN 3405 ECS-CECE 3(3,0)
Applied Numerical Methods for Civil Engineering: PR: MAC 2313 with a grade of "C" (2.0) or better; CR: MAP 2302. Application-driven numerical solution of common Civil and Environmental Engineering problems using linear algebra, interpolation, differentiation and integration, nonlinear systems, ODEs and IVPs, and linear programming. *Fall, Spring.*

CGN 3501C ECS-CECE 3(2,3)
Civil Engineering Materials: PR: A grade of "C" (2.0) or better in EGN 3331C and in CHS 1440 or CHM 2045C or CHM 2041. The characterization of materials used in civil engineering works to include concrete, bituminous polymers and composite materials. *Fall, Spring.* M&S fee \$30.00

CGN 3700C ECS-CECE 2(2,2)
Civil Engineering Measurements: PR: MAC 2312 and PHY 2049C both with a grade of "C" (2.0) or better. Engineering measurement, data analysis, and experimental hardware including electronics, system components, and calibration. Specific applications in civil engineering including surveying, GPS, and GIS *Fall, Spring.* M&S fee \$30.00

CGN 4808C ECS-CECE 3(2,2)
CECE Capstone Design: PR: "C" (2.0) or better in a previous CECE design course and department consent. An interdisciplinary capstone design experience requiring problem definition, data collection, analysis of alternatives, economic evaluation of alternatives, and oral and written presentation of final design. *Fall, Spring.*

CGN 5506 ECS-CECE 3(3,0)
Advanced Pavement and Civil Engineering Materials: PR: CGN 3501C, CEG 4011C. Pavement and civil engineering materials such as aggregate, Portland cement, and concrete. In addition, mechanics, modeling, analysis, and design of those materials will be included. *Occasional.*

CGN 5877 ECS-CECE 3(3,0)
Monitoring for Infrastructure Systems: PR: One of the following: CES 4100C, ENV 4120, ENV 4561, CWR 4203C, CWR 4101C or CCE 4004. Applications of modern instrumentation and data processing technologies to infrastructure monitoring and assessment. Topics in current and state-of-the-art monitoring techniques, SHM for infrastructure systems, and case studies on performance-based evaluation. *Odd Spring.*

CGS 1060C ECS-CS 3(2,2)
Introduction to Computers: Digital literacy, computer hardware, peripheral components, memory devices, effects of computers on society, application of computers. Not open to Computer Science majors. *Fall, Spring.*

CGS 2100C ECS-CS 3(2,1)
Computer Fundamentals for Business: Uses of computers and software in business, including business applications, commercial packages, and the internet. Not open to Computer Science majors. *Fall, Spring.*

CGS 2545C ECS-CS 3(2,1)
Database Concepts: PR: COP 2500C or high level programming course (C, Java, C#, C++) with a grade of "C" (2.0) or better. Entity-relation model, relational database managements systems, normal forms, performance or databases, report generation. *Fall, Spring.*

CGS 2585C ECS-CS 3(2,1)
Desktop/Internet Publishing: PR: COP 2500C or high level programming course (C, Java, C#, C++) with a grade of "C" (2.0) or better. Principles and techniques of page layout and formatting for documents and newsletters, presentation techniques, construction of web pages and design of integrated websites. *Occasional.*

CGS 3175 ECS-CS 3(3,0)
Internet Applications: PR: COP 2500C or high level programming course (C, Java, C#, C++) with a grade of "C" (2.0) or better. HTML coding, using images, sound and animation, advanced text formatting, forms and CGS scripts, introduction to javascript. *Fall, Spring.*

CGS 3269 ECS-CS 3(3,0)
Computer Architecture Concepts: PR: COP 2500C or high level programming course (C, Java, C#, C++) with a grade of "C" (2.0) or better. CPU organization, current computer architectures, network file servers. *Fall, Spring.*

CGS 3763 ECS-CS 3(3,0)
Operating System Concepts: PR: COP 2500C or high level programming course (C, Java, C#, C++) with a grade of "C" (2.0) or better. System calls, concept of processes, CPU scheduling, security issues, client server paradigms, and computer supported workgroups. *Occasional.*

CGS 5131 ECS-CS 3(3,0)
Computer Forensics I: Seizure and Examination of Computer Systems: PR: Computer literacy and C.I. Legal issues regarding seizure and chain of custody. Technical issues in acquiring computer evidence. Popular file systems are examined. Reporting issues in the legal system. *Fall.* M&S fee \$50.00

CHI 1120C CAH-LANG 4(3,1)
Elementary Chinese Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading and writing. *Fall.*

CHI 1120H CAH-LANG 4(4,0)
Honors Elementary Chinese Language and Civilization I: PR: Permission of Honors. Introduces the student to Chinese culture through the major language skills: Listening, speaking, reading and writing. Open only to students with no experience in the language. Honors level content. *Occasional.*

CHI 1121C CAH-LANG 4(3,1)
Elementary Chinese Language and Civilization II: PR: CHI 1120C or equivalent. Continuation of CHI 1120C. *Spring.*

CHI 1121H CAH-LANG 4(4,0)
Honors Elementary Chinese Language and Civilization II: PR: Permission of Honors. Continuation of CHI 1121H. *Occasional.*

UCF Courses and Descriptions

CHI 2200 CAH-LANG 3(3,0)
Intermediate Chinese I: PR: CHI 1121C or equivalent or C.I. Development of Chinese language skills at the intermediate level. *Fall, Spring.*

CHI 2201 CAH-LANG 3(3,0)
Intermediate Chinese II: PR: CHI 2200. Continuation of CHI 2200 with emphasis on Chinese cultures. *Fall, Spring.*

CHM 1020 COS-CHEM 3(3,0)
Concepts in Chemistry: PR: High school Algebra. Concepts will be examined to provide insight into the significant role that chemistry plays in our culture. Intended as a general education course. *Fall, Spring.*

CHM 1032 COS-CHEM 3(3,0)
General Chemistry: PR: MAC 1105C or MGF 1106 or equivalent. An introductory study of the fundamental concepts of chemistry, primarily oriented toward Health Science majors. The "NC" grading policy applies to this course. *Fall, Spring.*

CHM 1032L COS-CHEM 1(0,3)
General Chemistry Laboratory: PR: or CR: CHM 1032. Preference will be given to students whose major requires this course. An introductory study of physical and chemical properties of elements and compounds. IMPORTANT: Attendance of the first laboratory session dealing with safety procedures is mandatory; students who do not attend must immediately call the Chemistry Department, and may be dropped from the class. *Fall, Spring.* M&S fee \$54.00

CHM 2040 COS-CHEM 3(3,0)
Chemistry Fundamentals IA: PR: A minimum score of 550 (SAT) or 24 (ACT) in the mathematics section. MAC 1105C recommended. Not open to students with credit in CHM 2045C. Priority will be given to students whose major requires this course or CHM 2045C. Principles of modern chemistry, units and measures, basic physical theory of chemical reactivity, stoichiometry, reactions in aqueous solutions, thermochemistry. The "NC" grading policy applies to this course. *Fall, Spring.* M&S fee \$6.00

CHM 2041 COS-CHEM 3(3,0)
Chemistry Fundamentals IB: PR: CHM 2040 or its equivalent with a grade of C or better. Not open to students with credit in CHM 2045C. The second semester of CHM 2040. Atomic structure, periodicity, chemical bonding, states of matter, gases. The "NC" grading policy applies to this course. *Fall, Spring.*

CHM 2045C COS-CHEM 4(3,1)
Honors Chemistry Fundamentals I: PR: A passing score in the Chemistry Placement Exam. Not open to students with credit in both CHM 2040C and CHM 2041C. Priority will be given to students whose major requires this course. Same as CHM 2045C with honors-level content. *Fall.* M&S fee \$9.00

CHM 2045C COS-CHEM 4(3,1)
Chemistry Fundamentals I: PR: A passing score in the Chemistry Placement Exam. Not open to students with credit in both CHM 2040C and CHM 2041C. Priority will be given to students whose major requires this course. Principles of modern chemistry, units and measures, basic physical theory of chemical reactivity, stoichiometry, reactions in aqueous solutions, thermochemistry, atomic structure, periodicity, chemical bonding, states of matter, gases. The "NC" grading policy applies to this course. *Fall, Spring.* M&S fee \$9.00

CHM 2046 COS-CHEM 3(3,0)
Chemistry Fundamentals II: PR: "C" (2.0) grade or better in CHM 2045C or CHM 2041. Priority will be given to students whose major requires this course. Continuation of CHM 2045C or the CHM 2040 & CHM 2041 sequence. Intermolecular forces, solutions and colligative properties, equilibria, thermodynamics, chemical kinetics, electrochemistry, nuclear chemistry. *Fall, Spring.*

CHM 2046C COS-CHEM 4(3,3)
Honors Chemistry Fundamentals II: PR: A "C" (2.0) or better in CHM 2045C and permission of Honors. Same as CHM 2046 and CHM 2046L with honors-level content. *Spring.* M&S fee \$45.00

CHM 2046L COS-CHEM 1(0,3)
Chemistry Fundamentals Laboratory: PR: or CR: CHM 2046. Priority will be given to students whose major requires this course. Illustration of chemical principles and introduction to the techniques of inorganic and physical chemistry. IMPORTANT: Attendance of the first laboratory session dealing with safety procedures is mandatory; students who do not attend must immediately call the Chemistry Department, and may be dropped from the class. *Fall, Spring.* M&S fee \$45.00

CHM 2205 COS-CHEM 5(5,0)
Introduction to Organic and Biochemistry: PR: CHM 1032 or equivalent. An introduction to organic chemistry, stressing the chemistry of functional groups and a survey of the biochemistry of proteins, carbohydrates, lipids, and nucleic acids. *Spring.*

CHM 2210 COS-CHEM 3(3,0)
Organic Chemistry I: PR: A "C" (2.0) or better in CHM 2046. Priority will be given to students whose major requires this course. Theory and applications of organic chemistry: structure, bonding, kinetics, thermodynamics, reaction mechanisms, synthesis, and stereochemistry. Structure elucidation via spectrometric techniques. *Fall, Spring.*

CHM 2211 COS-CHEM 3(3,0)
Organic Chemistry II: PR: CHM 2210. Priority will be given to students whose major requires this course. Continuation of CHM 2210. *Fall, Spring.*

CHM 2211L COS-CHEM 2(0,6)
Organic Laboratory Techniques I: PR: CHM 2046L and CHM 2210. Priority will be given to students whose major requires this course. An introduction to the laboratory techniques of organic chemistry, including the preparation, reaction, and analysis of organic compounds. IMPORTANT: Attendance of the first laboratory session dealing with safety procedures is mandatory; students who do not attend must immediately call the Chemistry Department, and may be dropped from the class. *Fall, Spring.* M&S fee \$70.00

CHM 3120 COS-CHEM 3(3,0)
Analytical Chemistry: PR: CHM 2046, CHM 2046L. Classical and instrumental analysis. Choice of preferred analytical methods and techniques is emphasized through applications involving both inorganic and organic systems. *Fall, Spring.*

CHM 3120L COS-CHEM 1(0,3)
Analytical Chemistry Laboratory: PR: CHM 2046, CHM 2046L, and PR: or CR: CHM 3120. Experimental exercise of quantitative methods of analysis using titrimetric, gravimetric, potentiometric and photometric methods of analysis including statistical treatment of experimental data. IMPORTANT: Attendance of the first laboratory session dealing with safety procedures is mandatory; students who do not attend must immediately call the Chemistry Department, and may be dropped from the class. *Fall, Spring.* M&S fee \$70.00

CHM 3215L COS-CHEM 2(0,6)
Organic Laboratory Techniques II: PR: CHM 2211 and CHM 2211L. Open-end laboratory to develop synthesis techniques and structure elucidation skills. IMPORTANT: Attendance of the first laboratory session dealing with safety procedures is mandatory; students who do not attend must immediately call the Chemistry Department, and may be dropped from the class. *Fall.* M&S fee \$70.00

CHM 3410 COS-CHEM 4(3,1)
Physical Chemistry I: PR: CHM 2046, PHY 2049C, and MAC 2312. Rigorous treatment of atomic and molecular structure, thermodynamics, kinetics, and chemical bonding. *Fall.*

CHM 3411 COS-CHEM 3(3,0)
Physical Chemistry II: PR: CHM 3410. Continuation of CHM 3410. *Spring.*

CHM 3411L COS-CHEM 2(0,6)
Physical Chemistry Laboratory: PR: CHM 3120 and CR: CHM 3411. Classical as well as modern instrumental techniques coupled with computer data processing to measure physical properties and determine atomic and molecular parameters. *Spring.* M&S fee \$70.00

CHM 3422 COS-CHEM 3(3,0)
Applied Physical Chemistry: PR: PHY 2049C and MAC 2312. Physical chemistry as applied to the study of biological and forensic science. *Fall.*

CHM 4130 COS-CHEM 3(3,0)
Advanced Analytical Chemistry Laboratory Technique: PR: CHM 2211, CHM 3120 (with a minimum grade of "C" or 2.0) and CR: CHM 3411 or PR: CHM 3422. Modern methods of analysis including electrochemistry, spectroscopy, and separation techniques. *Spring.*

CHM 4130L COS-CHEM 2(0,6)
Advanced Analytical Chemistry Laboratory: PR: or CR: CHM 4130. Experimental exercise of instrumental methods of analysis. Successful students will develop practical skills performing experiments based on spectroscopic and chromatographic methods of analysis. Statistical data treatment of experimental results will be also exercised. *Spring.* M&S fee \$70.00

CHM 4220 COS-CHEM 3(3,0)
Organic Chemistry III: PR: CHM 2211 or its equivalent. Organic reaction mechanisms and retrosynthetic analysis and their application to synthetic chemistry. *Even Fall.*

CHM 4610 COS-CHEM 3(3,0)
Inorganic Chemistry: PR: or CR: CHM 3411. A discussion of descriptive inorganic chemistry based on various bonding theories, thermodynamics, and kinetics. *Spring.*

CHM 4610L COS-CHEM 2(0,6)
Inorganic Chemistry Laboratory: PR: CHM 4610. A study of physical and chemical properties and synthetic techniques in Inorganic Chemistry. *Fall.* M&S fee \$70.00

CHM 4930 COS-CHEM 1(1,0)
Chemistry Seminar I: PR: CHM 3120 or C.I. Student selects a topic and an advisor and prepares a draft seminar. *Fall, Spring.*

CHM 4931 COS-CHEM 1(1,0)
Chemistry Seminar II: PR: CHM 4930. Student improves the seminar prepared in CHM 4930 (or an approved alternative) and presents it to the Chemistry department. *Fall, Spring.*

CHM 5225 COS-CHEM 3(3,0)
Advanced Organic Chemistry: PR: CHM 2211, graduate status or senior standing, or C.I. Theoretical and physical organic concepts of organic systems from the perspective of modern structural theory, thermodynamics, and kinetics. *Odd Fall.*

CHM 5235 COS-CHEM 3(3,0)
Applied Molecular Spectroscopy: PR: CHM 3120 and CHM 2211, and graduate status or senior standing or C.I. Determination of chemical structure through interpretation of UV, IR, NMR and Mass Spectra. *Occasional.*

CHM 5305 COS-CHEM 3(3,0)
Applied Biological Chemistry: PR: CHM 2211, and graduate status or senior standing or C.I. The identification from plants, synthesis, assessment of bioactivity, and design of pharmaceuticals and agrochemicals, as well as the impact of biotechnology in the chemical industry. *Occasional.*

CHM 5450 COS-CHEM 3(3,0)
Polymer Chemistry: PR: CHM 2211, and graduate status or senior standing or C.I. An introduction to the chemistry of synthetic polymers. Synthetic methods, polymerization mechanisms, characterization techniques, and polymer properties will be considered. *Even Fall.*

CHM 5451C COS-CHEM 3(1,5)
Techniques in Polymer Science: PR: CHM 2211 and CHM 3410, graduate status or senior standing, or C.I. A laboratory and lecture course designed to introduce students to the major polymerization mechanisms along with polymer characterization and processing methods using modern instrumentation. *Odd Spring.* M&S fee \$63.00

UCF Courses and Descriptions

CHM 5580 COS-CHEM 3(3,0)
Advanced Physical Chemistry: CR: CHM 3411 and PR: MAC 2313, and graduate standing or senior standing or C.I. Selected topics of thermodynamics, kinetics, quantum mechanics, and structure. *Occasional.*

CHM 5715C COS-CHEM 3(2,3)
Optical Materials Processing and Characterization Techniques: PR: CHM 3411 and CHM 4610 or equivalent. Glasses, crystals and polymeric materials will be processed and characterized for their properties. Laboratory will emphasize material structure and physical property relationships. *Occasional.*

CHS 1440 COS-CHEM 4(3,1)
Principles of Chemistry: PR: One year of high school chemistry or CHM 1032. Basic concepts of chemistry, with emphasis on problem solving, including atomic and molecular structure, states of matter, stoichiometry, equilibria, electrochemistry and thermodynamics. The "NC" grading policy applies to this course. *Fall, Spring.*

CHS 3501 COS-CHEM 3(3,0)
Introduction to Forensic Science: PR: Preference will be given to students whose majors require this course. Intended for majors and non-majors to provide an overview of the specialty areas in the forensic crime lab. *Spring.*

CHS 3505C COS-CHEM 4(2,6)
Forensic Microscopy: PR: 'C' grade or better in CHM 2046 & L, and CHS 3501; and PR: or CR: PHY 2049C. The study of the polarized light microscope and its use in the identification and comparison of trace evidence. *Fall.* M&S fee \$69.00

CHS 3511C COS-CHEM 4(2,6)
Trace Evidence: PR: 'C' grade or better in CHS 3505C & CHM 2211. An advanced study of the techniques used to identify and compare trace evidence. *Spring.* M&S fee \$45.00

CHS 3514C COS-CHEM 3(2,3)
Bomb Scene Investigation: PR: Forensic Science major, CHS 3501 or C.I. Procedures for recognizing, collecting, preserving, and analysis of evidence from a post blast bombing crime scene. May be repeated for credit. *Occasional.*

CHS 3530C COS-CHEM 4(3,3)
Forensic Analysis of Controlled Substances: PR: 'C' grade or better in CHM 2211, PR: or CR: CHS 3505C & CHM 3120, or C.I. Study of presumptive tests, isolation, and instrumental techniques used in identification of controlled substances. *Fall.* M&S fee \$68.00

CHS 3533 COS-CHEM 2(2,0)
Forensic Biochemistry I: PR: 'C' or better in PCB 3063 and PCB 3233. Concepts and procedures of contemporary forensic biochemistry, including the identification of body fluids and the use of genetic markers to establish identity. *Fall.*

CHS 3533L COS-CHEM 1(0,3)
Forensic Biochemistry I Laboratory: PR: "C" (2.0) grade or better in BSC 2010C, PCB 3063, PCB 3063L, PCB 3233, PCB 3233L and PR: or CR: CHS 3533. Concepts and procedures of contemporary forensic biochemistry. Emphasis on techniques and procedures used in operational crime laboratories in the U.S. *Fall.* M&S fee \$70.00

CHS 3540C COS-CHEM 2(1,3)
Fire and Debris Analysis I: PR: CHM 3120 and C.I. A lecture/laboratory course covering the procedures for recovering and identifying flammable liquids in fire related evidence. *Occasional.*

CHS 3595 COS-CHEM 3(3,0)
Forensic Science in the Courtroom: PR: or CR: CHS 3501 or C.I., and Forensic Science major. The special needs of the forensic scientist in preparing for and participating in courtroom proceedings. *Spring.*

CHS 3949 COS-CHEM 0(0,8)
Cooperative Education in Chemistry: PR: Departmental permission required before registering. Cooperative education experience in chemistry. Graded S/U. May be repeated for credit. *Occasional.*

CHS 4506C COS-CHEM 3(2,3)
Forensic Investigation Technology: PR: A grade of "C" or better in CHS 3505C or C.I. Modern technology applied to forensic investigation. *Occasional.*

CHS 4515C COS-CHEM 4(2,6)
Forensic Crime Scene Investigation: PR: Grade of 'C' or better in CHS 3511C, or C.I. Procedures for the investigation of arson, explosives, and crime scenes. *Occasional.*

CHS 4534C COS-CHEM 3(1,6)
Forensic Biochemistry II: PR: CHS 3533C and C.I. Advanced treatment of the theoretical and practical aspects of forensic DNA analysis and the use of population genetics and genetic data analysis for evidence interpretation. *Spring.* M&S fee \$70.00

CHS 4537 COS-CHEM 2(2,0)
Forensic Laboratory Quality Assurance: PR: Grade of "C" or better in CHS 3501, CHS 3505C, and CHS 3533 or C.I. Concepts and principles of quality assurance and quality systems management in forensic laboratories. *Fall.*

CHS 4541C COS-CHEM 2(1,3)
Fire and Debris Analysis II: PR: CHS 3540C or C.I. An advanced lecture/laboratory course covering the procedures for recovering and identifying flammable liquids in real fire related evidence. *Occasional.*

CHS 4591 COS-CHEM 4(0,40)
Forensic Science Internship: PR: Senior standing, within 8 hrs. of completion of degree requirements, and 2.5 overall GPA. Credit for full-time work (15 weeks; 600 hours) for a professional forensic laboratory. May be repeated for credit. *Fall, Spring.*

CHS 4615 COS-CHEM 3(3,0)
Environmental Chemistry: PR: CHM 2046, senior level in biological, molecular, chemical or engineering sciences, or C.I. Principles of environmental chemistry, survey of environmental law, remediation technologies, industrial practices and environmentally responsible chemistry. *Odd Spring.*

CHS 5502 COS-CHEM 3(3,0)
Principles of Forensic Science: PR: Admission to Forensic Science MS program or C.I. Principles of forensic science crime scene investigation, concepts in physical and biological evidence, evidence collection and transport, discrimination and individualization of evidence. *Even Spring.*

CHS 5504 COS-CHEM 3(3,0)
Topics in Forensic Science: PR: Admission to Digital Forensics M.S. or Computer Forensics graduate certificate or C.I. History and current topics in Forensic Science. *Fall.*

CHS 5507 COS-CHEM 3(3,0)
Chemometric Applications in Forensic Science: PR: CHS 5504 or C.I. Modern methods of evaluating the evidential value of forensic data from physical evidence, including fibers, glass, ignitable liquids and others. *Odd Spring.*

CHS 5518 COS-CHEM 3(3,0)
The Forensic Collection and Examination of Digital Evidence: PR: Adv topics in Forensic Science, graduate status, or C.I. This course will cover the nature of Digital Evidence collection and examination under the constraints of Law and courtroom procedures. *Occasional.*

CHS 5596 COS-CHEM 3(3,0)
The Forensic Expert in the Courtroom: PR: CHS 3533, CHS 6535, CHS 6536, or C.I. A study of the uses of technically and scientifically trained expert witnesses at trial. *Even Spring.*

CIS 3003 ECS-CS 3(3,0)
Fundamentals of Information Technology: PR: CGS 2545C and COP 3223C each with a grade of "C" (2.0) or better. Pervasive themes in IT. Organizational issues. History of IT. IT and its related and informing disciplines. Application domains. Applications of math and statistics to IT. *Fall.*

CIS 3360 ECS-CS 3(3,0)
Security in Computing: PR: COP 3223C or EGN 3211 with a grade of "C" (2.0) or better. Security theory. Legal and human factors, Malware, Intrusion patterns and tools, Windows, Unix, TCP/IP, and applications vulnerabilities. Detection. Policies and enforcement. Protection and assurance. *Occasional.*

CIS 3362 ECS-CS 3(3,0)
Cryptography and Information Security: PR: COP 3223C or EGN 3211, and MAC 1114C each with a grade of "C" (2.0) or better. Encryption algorithms and ciphers. Public and private keys. Key infrastructures. Authentication, confidentiality, integrity, and nonrepudiation. Digital signatures and certificates. Hash and digest algorithms. Standards. *Occasional.*

CIS 3921 ECS-CS 1(1,0)
Careers in IT: PR: COP 3223C and IT major. An overview of the IT field, job opportunities and careers in information technology, detailed information about some jobs as well as a broad survey. *Fall, Spring.*

CIS 3990 ECS-CS 0(0,0)
IT Career and Academic Advising I: PR: PHY 2053C and IT major. Mandatory meeting with students and their faculty advisor for career/academic advising. *Fall, Spring.*

CIS 4004 ECS-CS 3(3,0)
Web-Based Information Technology: PR: CNT 3004 and COP 3330 each with grades of "C" (2.0) or better. Digital libraries. Media formats. Compression. Streaming Media. Mobile internet and WML. Emerging technologies. Capacity planning for web services. *Fall, Spring.*

CIS 4203C ECS-EECS 3(2,2)
Digital Forensics: PR: (COP 4600 or CGS 3763) and (CIS 3360 or CIS 3362) or C.I. Operating system forensics, digital media forensics, networking forensics, various digital devices forensics. User activity profiling and digital storage recovery. *Fall.*

CIS 4361 ECS-CS 3(3,0)
Secure Operating Systems and Administration: PR: CIS 3360 with a grade of "C" (2.0) or better; CR: COP 4600 or CGS 3763 or EEL 4882. Understanding of secure operating systems requirements, design principles and theories, protection methods, access control, authentication, vulnerability, analysis and case studies. *Occasional.*

CIS 4524 ECS-CS 3(3,0)
Managing IT Integration: PR: CIS 3003 with a grade of "C" (2.0) or better. Requirements, acquisition and sourcing. Integration. Project management. Testing and QA. Organizational context. Architecture. *Spring.*

CIS 4615C ECS-CS 3(3,1)
Secure Software Development and Assurance: PR: (COP 4600 or CGS 3763) and (CIS 3360 or CIS 3362) or C.I. Common criteria of security and assurance, secure software engineering, analyzing and auditing software, software reverse engineering. *Occasional.*

CIS 4940C ECS-EECS 3(1,3)
Topics in Cybersecurity: PR: CIS 3360 or C.I. A directed and supervised investigation of selected problems, issues, and trends in cybersecurity, with emphasis on laboratory simulations of system penetration methods and network defense strategies. *Spring.*

CIS 4991 ECS-CS 0(0,0)
IT Career and Academic Advising II: PR: CIS 3990 and department consent. Mandatory meeting with students and their faculty advisor for career/academic advising. *Fall, Spring.*

CJC 3010 HPA-CJ 3(3,0)
Corrections and Penology: PR: CCJ 3024 or C.I. Theories, structures, and methods of institutional and non-institutional processing and treatment of convicted criminals and juvenile offenders. *Fall, Spring.*

CJC 3134 HPA-CJ 3(3,0)
Prisons and jails: PR: CJC 3010. An overview and analysis of issues in institutional corrections, focussing on prison and jail history, inmates, guards, administration and management, and programming. *Occasional.*

UCF Courses and Descriptions

CJC 3164 HPA-CJ 3(3,0)
Community-Based Corrections: PR: CCJ 3024 and CJC 3010 or C.I. An overview and analysis of correction interventions and treatment programs in the community. *Occasional.*

CJC 4410 HPA-CJ 3(3,0)
Correctional Interventions in Criminal Justice: PR: Junior Standing and CJC 3010. Intervention techniques used with juvenile and adult offenders in institutional and community-based settings and study of the theoretical foundations. *Occasional.*

CJC 5020 HPA-CJ 3(3,0)
Foundations of Corrections: PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Provides an overview of correctional process in U.S., including philosophical foundations and contemporary practices. *Occasional.*

CJE 3001 HPA-CJ 3(3,0)
Careers in Criminal Justice: PR: Sophomore Standing and ENC 1102. Introductory course with focus on components of the Criminal Justice process (law enforcement, courts, and corrections) and employment opportunities within the criminal justice system. *Fall/Spring.*

CJE 3444 HPA-CJ 3(3,0)
Crime Prevention: PR: Sophomore Standing and ENC 1102. An overview and analysis of crime prevention strategies used in the private and public sectors. *Fall/Spring.*

CJE 3662 HPA-CJ 3(3,0)
CJ Information Technology and Data Management: PR: (Sophomore Standing and CGS 1060C) or C.I. Designed to familiarize with concepts of databases, uses, and applicability to crime analysis. *Occasional.*

CJE 4012 HPA-CJ 3(3,0)
Criminal Profiling in Criminal Justice: PR: CCJ 3014 or (Criminal Profiling or Crime Scene Investigation Certificate declared and Junior Standing) or C.I. Examines criminal profiling undertaken by law enforcement and prosecution authorities which consists of gathering, reviewing and analyzing evidence pertaining to violent crimes. *Occasional.*

CJE 4014 HPA-CJ 3(3,0)
Police and Society: PR: CCJ 3024 or C.I. An examination of the varied roles of police in contemporary society. Emphasis is on dynamics of police/citizen interactions and the police subculture. *Fall/Spring.*

CJE 4174 HPA-CJ 4(4,0)
Comparative Justice Systems: PR: CCJ 3024 and CJL 3510 or C.I. A survey of contemporary foreign criminal justice and differences emerging from various political, cultural and legal systems. *Occasional.*

CJE 4352 HPA-CJ 3(3,0)
Policy Development in Law Enforcement: PR: Sophomore Standing and ENC 1102. The course is designed to deal with policy development in law enforcement. Major issues of organization, administration, personnel practices and police operations will be addressed. *Occasional.*

CJE 4410 HPA-CJ 3(3,0)
Community Policing: PR: Sophomore Standing and ENC 1102. The viability of community policing. The theoretical basis for community interventions are related to the daily operations required by community policing. *Occasional.*

CJE 4572 HPA-CJ 3(3,0)
Justice Agency Operations: PR: CCJ 3024 or C.I. Elements, functions, and processes essential to the continuing management of various criminal justice agencies, institutions and court systems. *Occasional.*

CJE 4610 HPA-CJ 3(3,0)
Criminal Investigation: PR: CJE 4014 or (Criminal Profiling or Crime Scene Investigation certificate declared) or C.I. Course acquaints students with basic Procedures used in Criminal investigations, purpose of investigations, and ingredients for successful investigations. *Fall/Spring.*

CJE 4630 HPA-CJ 3(3,0)
Serial Murder and Criminal Justice: PR: Junior Standing and ENC 1102 or C.I. Study of extent, types, and explanations of serial murder, and responses of the general public, law enforcement, and prosecution. *Occasional.*

CJE 4654 HPA-CJ 3(3,0)
Crime and Place: PR: CCJ 3024 or (Crime Analysis and Crime Mapping Certificate declared and Junior Standing) or C.I. Provides an understanding of how physical environmental features - the natural and built environment - influences crime events. *Occasional.*

CJE 4663 HPA-CJ 3(3,0)
Crime Mapping and Pattern Analysis: PR: CJE 3662 or C.I. Provides essential theoretical knowledge and hands on experience mapping crime and other spatial criminal justice data and analyzing crime patterns. *Occasional.*

CJE 5021 HPA-CJ 3(3,0)
Foundations of Law Enforcement: PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. Examines police role in modern society and law enforcement policy. *Occasional.*

CJJ 4564 HPA-CJ 3(3,0)
Juvenile Justice System: PR: (CCJ 3024 and CJ Majors) or Victim Advocacy Certificate declared or C.I. Examination of programs and institutions including juvenile court process, intake services, and remedial procedures and practices. *Occasional.*

CJL 3110 HPA-CJ 3(3,0)
Criminal Law in Action: PR: Sophomore Standing and ENC 1102. Basic concepts of criminal law: elements of major crimes, criminal responsibility, defenses, and parties to crime. *Fall/Spring.*

CJL 3510 HPA-CJ 3(3,0)
Prosecution and Adjudication: PR: CCJ 3024 or C.I. Examination of structures and goals of offices and prosecution and criminal trial courts, and of the processes of charging, adjudicating, and sentencing defendants. *Fall/Spring.*

CJL 4010 HPA-CJ 3(3,0)
Legal Aspects of Policing: PR: CJE 4014. The legal dimensions of various police decision-making stages; including stops and frisks; arrests; searches and seizures wiretappings; and, interrogations *Occasional.*

CJL 4046 HPA-CJ 3(3,0)
Liability Issues in Criminal Justice: PR: CCJ 3024 or C.I. Student of fundamental concepts found in civil law with an emphasis on civil liability regarding criminal justice practices. *Occasional.*

CJL 4410 HPA-CJ 3(3,0)
Legal Aspects of the Criminal Court Process: PR: CJL 3510. The legal dimension of various criminal court decision making stages, including; bail; charging; preliminary hearing; grand jury; pretrial hearings plea hearings; trial; and, sentencing *Occasional.*

CJL 4514 HPA-CJ 3(3,0)
Criminal Sentencing: PR: CCJ 3024, CJL 3510. Examines the myriad theoretical, empirical and operational issues involved in criminal sentencing policy in American society. *Occasional.*

CJL 5049 HPA-CJ 6(6,0)
International Perspectives on Law and Justice: PR: C.I. or graduate standing. Examination of the legal and criminal justice systems of other nations and territories through lecture, seminar, research and field visits. *Occasional.*

CJT 3803 HPA-CJ 3(3,0)
Security Management: PR: SCC 3311 or C.I. Examination of a global security management environment impacted by downsizing a dramatically changing work force, religious extremism/terrorism, technological revolution and other challenges. *Occasional.*

CJT 3821 HPA-CJ 3(3,0)
Practical Security Applications: An examination of basic security principles applied to practical specific security situations encountered in the Central Florida area. *Occasional.*

CJT 4843 HPA-CJ 3(3,0)
Risk Management in Criminal Justice/Private Security: PR: SCC 3311 or C.I. This course examines the concept of risk management in a criminal justice context. *Occasional.*

CLP 3004 COS-PSYCH 3(3,0)
Behavioral Self Control: PR: PSY 2012. Application of behavioral and biofeedback techniques to self-regulation. *Occasional.*

CLP 3143 COS-PSYCH 3(3,0)
Abnormal Psychology: PR: PSY 2012. Classification, causation, and treatment of deviant patterns of behavior. *Fall/Spring.*

CLP 3143H COS-PSYCH 3(3,0)
Honors Abnormal Psychology: PR: PSY 2012 and consent of Honors. Classification, causation, and treatment of deviant patterns of behavior. With Honors content. *Occasional.*

CLP 3184 COS-PSYCH 3(3,0)
Women's Mental Health: PR: PSY 2012. Social and cultural factors of mental health issues and conditions that are unique to or primarily impact women in the U.S. today. *Occasional.*

CLP 3302 COS-PSYCH 3(3,0)
Clinical Psychology: PR: CLP 3143. An overview of approaches to psychopathology, methods of clinical assessment, and various approaches to individual and group counseling. *Fall/Spring.*

CLP 3413 COS-PSYCH 3(3,0)
Contemporary Behavior Therapy: PR: CLP 3143. Emphasis on the underlying principles and the specific intervention procedures which are utilized in contemporary behavior therapy, including treatment strategies for particular behavior disorders. *Occasional.*

CLP 3467 COS-PSYCH 3(3,0)
Interpersonal Effectiveness and Group Psychotherapy: PR: PSY 2012. Psychological aspects of interpersonal relationships, the rationale for group therapy, and strategies for enhancing interpersonal skills and personal growth. *Occasional.*

CLP 4134 COS-PSYCH 3(3,0)
Childhood Psychopathology: PR: PSY 2012, CLP 3143, DEP 2004C. An in-depth survey of the prevalence, classification, symptoms, diagnosis, consequences, and treatments of disorders of infancy, childhood, and adolescence. *Fall/Odd Spring.*

CLP 4314 COS-PSYCH 3(3,0)
Health Psychology: PR: PSY 2012. Interactions between psychosocial and physical conditions, in prevention, diagnosis, intervention and health care delivery policy planning. Course will cover empirical phases for prevention, assessment and intervention approaches for these focal areas: cancer, chronic heart disease, diabetes, HIV disease, pain and stress. *Occasional.*

CLP 4390 COS-PSYCH 3(3,0)
Forensic Psychology: PR: PSY 2012. Clinical practice of psychology within the legal system, including forensic evaluation of competency/insanity, treatment, and criminal profiling. *Occasional.*

CLP 5166 COS-PSYCH 3(3,0)
Advanced Abnormal Psychology: PR: Graduate status or senior standing or C.I. Consideration of classification, causation, management and treatment of emotional disorders. Review of theories and research in the field. Lecture/Laboratory. *Occasional.*

CLP 5187 COS-PSYCH 3(3,0)
Mental Health and Aging: PR: Graduate status or senior standing or C.I. Introduction to assessment and intervention issues, practice and research related to problems with cognitive and emotional functioning among older adults. May be repeated for credit. *Occasional.*

CLT 3370 CAH-PHIL 3(3,0)
Classical Mythology: PR: Any HUM course or C.I. Myths of the Greeks & Romans studied through excerpts from ancient sources and experienced through works of art, literature, and music. *Occasional.*

UCF Courses and Descriptions

CLT 3378 CAH-PHIL 3(3,0)
Comparative Mythology: PR: Any HUM course or C.I. Common themes found in the myths of various cultures; theories of their origins, meaning and value in human experience. *Occasional.*

CNT 3004 ECS-CS 3(3,0)
Computer Network Concepts: CR: PHY 2054C with a grade of "C" (2.0) or better and CIS 3390. Network media, protocol, current and evolving standards for local, metropolitan, wide area and wireless networks. *Fall, Spring.*

CNT 4403 ECS-CS 3(3,0)
Network Security and Privacy: PR: (CNT 3004 or EEL 4781 or CNT 4704) and (CIS 3360 or CIS 3362) all with a grade of "C" (2.0) or better or C.I. Fundamentals of network security, protocols, secure applications, network intrusion detection, security policy, firewalls, and privacy issues. *Occasional.*

CNT 4603 ECS-CS 3(3,0)
System Administration and Maintenance: PR: CGS 3763 with a grade of "C" (2.0) or better. An examination of operating systems and applications installation, configuration, and maintenance, including client-server services, content management and deployment, server administration and management, and user/group management. *Fall, Spring.*

CNT 4703C ECS-CS 3(1,2)
Design and Implementation of Computer Communication Networks: PR: CNT 3004 and COP 3502C and (MAD 2104 or COT 3100C) all with a grade of "C" (2.0) or better. Data communication networking technologies (TCP/IP, Ethernet, Gigabit Ethernet, ATM, Frame Relay), products (routers, switches, adapters, cabling). Base design and detailed configuration including hands-on exercises. *Fall, Spring.* M&S fee \$16.00

CNT 4704 ECS-CS 3(3,0)
Analysis of Computer Communication Networks: PR: (COT 3100C or MAD 2104) and STA 2023 each with grades of "C" (2.0) or better. Network design using layering. Introduces cabling, topology, architecture, hardware and software. Includes performance and control issues such as congestion control, error control, contention resolution. *Occasional.*

CNT 4714 ECS-CS 3(3,0)
Enterprise Computing: PR: CGS 3269, MAD 2104, COP 3330 and COP 3502C all with a grade of "C" (2.0) or better. Client-server architecture. Server-side scripting: Servlets, JSP, PHP, JDBC and MySQL database; connectivity. Multi-threaded Java applications. J2EE development. SSL, Event-driven programming. *Fall, Spring.*

CNT 5008 ECS-CS 3(3,0)
Computer Communication Networks Architecture: PR: EEL 4768C. Computer networks, layers, protocols and interfaces, local area networks networking. *Fall.*

CNT 5410L ECS-CS 3(1,3)
Cyber Operations Lab: PR: IDC 5602 or C.I. Programming, software, and hardware components for cybersecurity operations related to system administration, firewalls, cyber attack, cyber defense, security, secure architectures at network and computer level. *Occasional.*

CNT 5805 ECS-EECS 3(3,0)
Network Science: PR: Undergraduate degree in CS, EE, or CpE. The emerging science of complex networks and their applications. Focus will be on algorithms, mathematical theories, and computational methods that analyze complex networks and predict their behavior. *Even Fall.*

COM 1000 COS-COMM 3(3,0)
Introduction to Communication: Survey course introducing students to theory, research, and practical principles associated with human communication in interpersonal, public, and professional contexts. *Fall, Spring.*

COM 3003 COS-COMM 3(3,0)
Exploring Human Communication: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. The variety of topics and contexts that human communication scholars examine, the theories that have emerged and the research that creates the theories. *Occasional.*

COM 3011C COS-COMM 3(1,2)
Communication and Human Relations: PR: or CR: COM 3311. Semantics; symbols and meaning and their relationship with human behavior. *Fall, Spring.*

COM 3013 COS-COMM 3(3,0)
Communication and the Family: PR: One of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. The ways members of a family unit interact verbally and nonverbally to influence one another. *Fall, Spring.*

COM 3022 COS-COMM 3(3,0)
Health Communication: PR: SPC 1608, SPC 1603C, COM 1000, or C.I. Theories and research about the role communication plays in health. *Fall.*

COM 3110 COS-COMM 3(3,0)
Business and Professional Communication: PR: I/O, Ad-PR, or R-TV Majors or I/O Com Minors only, and one of the following: SPC 1608, SPC 1603C, or C.I. Theoretical and practical training in effective presentational speaking for business and professions. *Fall, Spring.*

COM 3110H COS-COMM 3(3,0)
Honors Business and Professional Communication: PR: Majors only, SPC 1608 or SPC 1603C or C.I. and consent of Honors. Theoretical and practical training in effective presentational speaking for business and professions. With Honors content. *Occasional.*

COM 3120 COS-COMM 3(3,0)
Organizational Communication: PR: or CR: COM 3311, or C.I. A study of communication functions and problems within the contexts of hierarchies. *Fall, Spring.*

COM 3311 COS-COMM 3(3,0)
Communication Research Methods: PR: STA 2014C and I-O Major or I-O Minor, or Human Communication major or Human Communication minor, or C.I. Research methods used in communication. Understanding and interpretation of original research emphasized. *Fall, Spring.*

COM 3330 COS-COMM 3(3,0)
Computer Mediated Communication: PR: CGS 1060C or CGS 2100C. Communicating through computers. The foundations and applications of online and interactive multimedia applications, including trends and limitations. *Spring.*

COM 3332 COS-COMM 3(3,0)
Communication, Technology, and Change: PR: One of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. How new technologies influence (and are influenced by) communication in a variety of contexts, including organization and interpersonal settings. *Fall, Spring.*

COM 3406 COS-COMM 3(3,0)
Role of Motivation in Communication: PR: or CR: COM 3311, or C.I. Motivation theories that directly affect the process of human communication. *Occasional.*

COM 3800 COS-COMM 3(3,0)
Conflict Communication Research Methods: PR: Communication & Conflict major and either SPC 1608, or SPC 1603, or COM 1000, or C.I. Survey of research methods used by conflict communication scholars; emphasis on approaches, methodologies, and analyses used to inform the process of human conflict communication. *Fall, Spring.*

COM 3801 COS-COMM 3(3,0)
Communication Theories of Interpersonal Conflict: PR: or CR: Communication & Conflict major and COM 3800, or C.I. Examination of social dynamics, interpersonal behavior, and motivation in a variety of settings in order to analyze intergroup conflict, and violence reducing strategies and techniques. *Fall, Spring.*

COM 3802 COS-COMM 3(3,0)
Communication & Conflict: PR: or CR: Communication & Conflict major and COM 3800, or C.I. Examination of major theories and concepts related to communication and conflict focusing on the influence of message content, relationships, and environments in multiple conflict scenarios. *Fall, Spring.*

COM 3912 COS-COMM 3(3,0)
Collaborative Experiential Research Practicum: PR: Either SPC 1608, SPC 1603C or COM 1000, and C.I. Students will work as research assistants in a team, under faculty supervision, and learn first-hand the process of conducting communication/social scientific research. May be used in the degree program a maximum of 2 times. *Occasional.*

COM 4014 COS-COMM 3(3,0)
Gender Issues in Communication: PR: Junior Standing, and one of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. A study of how communication exchanges, both verbal and non-verbal, differ between men and women, and how these differences are manifested. *Fall, Spring.*

COM 4416 COS-COMM 3(3,0)
Terrorism and Communication: PR: One of the following: SPC 1603C, SPC 1608, COM 1000 or C.I. How terrorism is a communication process. How mass media, symbols, linguistic devices, e-terrorism, and theoretical dimensions play a role in terrorism. How communities respond to terrorist attacks. *Fall, Spring.*

COM 4416H COS-COMM 3(3,0)
Honors Terrorism and Communication: PR: One of the following: SPC 1603C, or SPC 1608, or COM 1000 or C.I., and Consent of Honors. How terrorism is a communication process. How mass media, symbols, linguistic devices, e-terrorism, and theoretical dimensions play a role in terrorism. How communities respond to terrorist attacks. *Occasional.*

COM 4461 COS-COMM 3(3,0)
Intercultural Communication: PR: Junior Standing, and one of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. Study of variables affecting messages and participants in intercultural contexts. *Fall, Spring.*

COM 4462 COS-COMM 3(3,0)
Conflict Management: PR: or CR: COM 3311, or C.I. The study of communication in everyday conflicts. *Fall, Spring.*

COM 4550 COS-COMM 3(3,0)
Health Communication Campaigns: PR: COM 3311. Strategies and effects of health communication campaigns aimed at informing and persuading audiences. *Spring.*

COM 4803 COS-COMM 3(3,0)
Third Party Processes & Intervention: PR: or CR: COM 3800. Identify components and skills in multiple third party processes including mediation, arbitration, and facilitation; build conflict management and process design skills. *Spring.*

COM 4804 COS-COMM 3(3,0)
Conflict & Communication Context: PR: or CR: Communication & Conflict major and COM 3800, or C.I. Exploration of communication factors that contribute to the development of conflict across groups, cultures and societies. *Fall, Spring.*

COM 4805 COS-COMM 3(3,0)
Transformative Communication: PR: or CR: COM 3800. Examines various western and non-western belief/ethical systems, and how conflict may be perceived, communicated and interpreted using metaphysical approaches to conflict management. *Fall.*

COM 4806 COS-COMM 3(3,0)
Communication & Conflict Case Studies: PR: Communication & Conflict major and Senior Standing, or C.I. Application of communication and conflict theories to intercultural and community case studies, examining historical, political, and cultural elements of empowerment and peace-building. *Spring.*

COM 5932 COS-COMM 3(3,0)
Topics in Communication Theory and Research: PR: Admission to Communication M.A. program or C.I. In-depth examination of a particular area of communication theory and research, emphasizing major developments, current uses, implications for research, and overall impact on the field. *Occasional.*

UCF Courses and Descriptions

COP 2500C ECS-CS 4(3,1)
Concepts in Computer Science: Fundamental concepts in program design, data structures, algorithms, analysis and a survey of topics in CS. Not open to Computer Science majors. *Fall, Spring.*

COP 3223C ECS-CS 3(3,1)
Introduction to Programming with C: Programming in C including arrays, pointer manipulation and use of standard C math and IO libraries. *Fall, Spring.*

COP 3223H ECS-CS 3(3,0)
Honors Introduction to Programming with C: PR: Consent of Honors. Programming with C including arrays, pointer manipulation and use of standard C math and IO libraries. With Honors content. *Fall.*

COP 3330 ECS-CS 3(3,0)
Object Oriented Programming: PR: COP 3223C or EGN 3211 with a grade of "C" (2.0) or better. Object oriented programming concepts (classes, objects, methods, encapsulating, inheritance, interfaces) and the expression of these concepts in the programming languages such as JAVA. *Fall, Spring.*

COP 3402 ECS-CS 3(3,0)
Systems Software: PR: CDA 3103C and COP 3502C each with a grade of "C" (2.0) or better. Design and development of assemblers, linkers, loaders, and compilers. Study memory hierarchy, program performance, and system level I/O. *Fall, Spring.*

COP 3502C ECS-CS 3(3,1)
Computer Science I: PR: (COP 3223C or EGN 3211) and MAC 1105C all with a grade of "C" (2.0) or better. Problem solving techniques, order analysis and notation, abstract data types, and recursion. *Fall, Spring.*

COP 3502H ECS-CS 3(3,0)
Honors Computer Science I: PR: Permission of Honors and (COP 3223C or EGN 3211) and MAC 1105C all with a grade of "C" (2.0) or better. Problem solving techniques, order analysis and notation, abstract data types, and recursion. *Spring.*

COP 3503C ECS-CS 3(3,1)
Computer Science II: PR: COP 3502C and COP 3330 and (MAD 2104 or COT 3100C) all with a grade of "C" (2.0) or better. Algorithm design and analysis for tree, list, set, and graph data models; algorithmic strategies and applications, and algorithmic complexity analysis; sorting and searching; practical applications. *Fall, Spring.*

COP 3503H ECS-CS 3(3,0)
Honors Computer Science II: PR: Permission of Honors and (COP 3502H or COP 3502C) and COP 3330 and (MAD 2104 or COT 3100C) each with a grade of "C" (2.0) or better. Algorithm design and analysis for tree, list, set, and graph data models; algorithmic strategies and applications, and algorithmic complexity analysis; sorting and searching; practical applications. With honors content. *Fall.*

COP 4020 ECS-CS 3(3,0)
Programming Languages I: PR: COP 3503C with a grade of "C" or better and COT 3960. Paradigms and fundamental concepts of programming languages are presented, including: scope, binding, abstraction, encapsulation, typing etc. Design paradigms object-oriented, functional and logic programming are presented. *Fall, Spring.*

COP 4331C ECS-CS 3(3,1)
Processes for Object-Oriented Software Development: PR: COP 3503C with a grade of "C" (2.0) or better and COT 3960 (CS majors). Concepts, principles, processes and methods for developing large software systems featuring a team project using object-oriented design in UML and implementation in C++. *Fall, Spring.*

COP 4516C ECS-CS 3(1,3)
Problem Solving Techniques and Team Dynamics: PR: COP 3503C with a grade of "C" (2.0) or better. Design and implement solutions to problems requiring the applications of the different algorithms. Team project format. *Occasional.*

COP 4520 ECS-CS 3(3,0)
Concepts of Parallel and Distributed Processing: PR: COP 3402 and COP 3503C each with a grade of "C" (2.0) or better and COT 3960. Parallel and distributed paradigms, architectures and algorithms, and the analytical tools, environments and languages needed to support these paradigms. *Occasional.*

COP 4600 ECS-CS 3(3,0)
Operating Systems: PR: COP 3503C and COP 3402 (CS majors) each with a grade of "C" (2.0) or better and COT 3960 (CS majors). Function and organization of operating systems, process management, virtual memory, I/O management, and file management. *Fall, Spring.*

COP 4710 ECS-CS 3(3,0)
Database Systems: PR: COP 3503C with a grade of "C" (2.0) or better. Storage and access Structures, database models and languages, related database design, and implementation techniques for database management systems. *Fall, Spring.*

COP 4910 ECS-CS 3(3,0)
Frontiers in Information Technology: PR: CNT 4603 with a grade of "C" (2.0) or better; CR: CNT 4703C and CIS 4991. Research into leading edge information technologies that have a high likelihood of affecting the work place in the two to five year time frame. *Fall, Spring.*

COP 4934 ECS-CS 3(3,0)
Senior Design I: PR: COP 3402 and COP 3503C each with a grade of "C" (2.0) or better and consent of Department of EECS; CR: COP 4331C. Students work in teams to demonstrate their knowledge of computer science and apply it to realistic and meaningful problems. *Fall, Spring.*

COP 4935 ECS-CS 3(3,0)
Senior Design II: PR: COP 4934 with a grade of "C" (2.0) or better. Students work in teams to demonstrate their knowledge of computer science and apply it to realistic and meaningful problems. *Fall, Spring.*

COP 5021 ECS-CS 3(3,0)
Program Analysis: PR: COP 4020 and COT 4210 or C.I. Static analysis of programs including theoretical and practical limitations, data flow analysis, abstract interpretation, and type and effect systems. Tools to automate program analysis. *Even Spring.*

COP 5537 ECS-CS 3(3,0)
Network Optimization: PR: Graduate standing or C.I. Techniques for modeling complex, interconnected systems as networks; optimization with graph theory; algorithms, data structures, and computational complexity; statistical methods for studying large, evolving networks. *Fall.*

COP 5611 ECS-CS 3(3,0)
Operating Systems Design Principles: PR: COP 4600. Structure and functions of operating systems, process communication techniques, high-level concurrent programming, virtual memory systems, elementary queueing theory, security, distributed systems, case studies. *Spring.*

COP 5621 ECS-CS 3(3,0)
Compiler Construction: PR: COP4020 and COT 4210. Techniques in the design and implementation of compilers. Optimization, code generation, error recovery, attributed grammars. A project is required. *Odd Fall.*

COP 5711 ECS-CS 3(3,0)
Parallel and Distributed Database Systems: PR: COP 4710. Storage manager, implementation techniques for parallel DBMSs, distributed DBMS architectures, distributed database design, query processing, multidatabase systems. *Occasional.*

COT 3100C ECS-CS 3(3,1)
Introduction to Discrete Structures: PR: MAC 1105C and MAC 1114C each with a grade of "C" (2.0) or better. Logic, sets, functions, relations, combinatorics, graphics, Boolean algebras, finite-state machines, Turing machines, unsolvability, computational complexity. *Fall, Spring.*

COT 3100H ECS-CS 3(3,0)
Honors Introduction to Discrete Structures: PR: Permission of Honors and MAC 1105C and MAC 1114C each with a grade of "C" (2.0) or better. Logic, sets, functions, relations, combinatorics, graphics, Boolean algebras, finite-state machines, Turing machines, unsolvability, computational complexity. *Occasional.*

COT 3960 ECS-CS 0(1,0)
CS Foundation Exam: PR: COP 3502C and COT 3100C each with a grade of "C" (2.0) or better. Foundation examination for computer science majors. Required before taking advanced core courses in Computer Science and upper-division 4000 and 5000 level CS electives. Graded S/U. *Fall, Spring.*

COT 4210 ECS-CS 3(3,0)
Discrete Structures II: PR: COP 3503C with a grade of "C" (2.0) or better and COT 3960. Computation Theory. A study of the properties of grammars and automata as formal specifications for algorithms and families of languages. *Fall, Spring.*

COT 4400 ECS-CS 3(3,0)
Tools for Algorithm Analysis: PR: COT 3960 and COP 3503C. Tools from discrete and continuous mathematics for analyzing complexity of algorithms. Order notation use and manipulation. *Occasional.*

COT 4500 ECS-CS 3(3,0)
Numerical Calculus: PR: MAC 2312 and COP 3223C each with a grade of "C" (2.0) or better. Numerical methods for finding roots of nonlinear equations, solutions of systems of linear equations, and ordinary differential equations. *Occasional.*

COT 4810 ECS-CS 3(3,0)
Topics in Computer Science: PR: COP 3402 and COP 3503C each with a grade of "C" (2.0) or better and COT 3960. A range of topics from the field of Computer science; application of oral and written communication skills; social, ethical and moral issues of computing. *Fall, Spring.*

COT 5405 ECS-CS 3(3,0)
Design and Analysis of Algorithms: PR: COT 4210. Classification of algorithms, e.g., recursive, divide-and-conquer, greedy, etc. Data Structures and algorithm design and performance. Time and space complexity analysis. *Fall, Spring.*

CPO 3034 COS-POLS 3(3,0)
Politics of Developing Areas: PR: INR 2002 or C.I. Comparative analysis of theories, problems and politics of development in Third World nations. *Even Fall.*

CPO 3057 COS-POLS 3(3,0)
Contemporary Revolution and Political Violence: PR: ENC 1102 or C.I. Theories and cases of revolutionary change and political violence in the contemporary world. *Occasional.*

CPO 3103 COS-POLS 3(3,0)
Comparative Politics: PR: ENC 1102 or POS 2041 or C.I. Government and politics in selected nations, with emphasis upon comparative analysis of contemporary problems, politics, political culture, behavior, and institutions. *Spring.*

CPO 3104 COS-POLS 3(3,0)
Politics of Western Europe: PR: ENC 1102 or POS 2041 or C.I. An examination of the political and economic dynamics of Western Europe in the post-1945 era. *Odd Spring.*

CPO 3132 COS-POLS 3(3,0)
Canadian Studies: PR: POS 2041 or C.I. A multi-disciplinary approach to the study of Canada, its people, culture, government, and economy. *Occasional.*

CPO 3403 COS-POLS 3(3,0)
Politics of the Middle East: PR: ENC 1102 or POS 2041 or C.I. An examination of the dynamics of Middle East politics, including both regional and international dimensions. *Occasional.*

CPO 3403H COS-POLS 3(3,0)
Honors Politics of the Middle East: PR: Permission of Honors. An examination of the dynamics of Middle East politics, including both regional and international dimensions. Honors level content *Occasional.*

UCF Courses and Descriptions

CPO 3614 COS-POLS 3(3,0)
Politics of Eastern Europe: PR: ENC 1102 or POS 2041 or C.I. An examination of the political and economic dynamics of Eastern Europe in the post-1945 era. *Occasional.*

CPO 4062 COS-POLS 3(3,0)
Comparative Judicial Process: PR: ENC 1102 or POS 2041 or C.I. Study of courts and judges in cross national context. Focus upon judicial recruitment, decisional patterns, and policy outcomes. *Occasional.*

CPO 4074 COS-POLS 3(3,0)
Political Economy: PR: ENC 1102 or POS 2041 or C.I. Interrelationship of political and economic phenomena of both advanced industrial societies and less developed countries. *Even Fall.*

CPO 4101 COS-POLS 3(3,0)
Politics of the European Union: PR: ENC 1102 or POS 2041 or C.I. Evolution of the European Union, theories of the EU and EU institutions and policies from a comparative perspective. *Spring.*

CPO 4123 COS-POLS 3(3,0)
Government and Politics of Great Britain: PR: ENC 1102 or POS 2041 or C.I. A survey of British government, society, politics and institutions, emphasizing parliamentary traditions. Britain's foreign policy and European role will be discussed. *Even Spring.*

CPO 4303 COS-POLS 3(3,0)
Comparative Latin American Politics: PR: ENC 1102 or POS 2041 or C.I. Comparative analysis of politics, society and culture in Latin America and selected countries of the region. *Even Fall.*

CPO 4445 COS-POLS 3(3,0)
Comparative Political Parties: PR: ENC 1102 or POS 2041 or C.I. Theories of the formation, structures, organization, and behavior of political parties and political party systems in comparative perspective. *Occasional.*

CPO 4514 COS-POLS 3(3,0)
Politics of East Asia: PR: ENC 1102 or POS 2041 or C.I. Major trends in political, economic, and socio-cultural aspects in the East Asian region. *Occasional.*

CPO 4541 COS-POLS 3(3,0)
Chinese Politics: PR: ENC 1102 or POS 2041 or C.I. China's political development since 1949. *Occasional.*

CPO 4553 COS-POLS 3(3,0)
Politics of Japan: PR: ENC 1102 or POS 2041 or C.I. Evolution of the Japanese political system and how domestic and international politics influence the functioning of the Japanese economy. *Occasional.*

CPO 4643 COS-POLS 3(3,0)
Government and Politics of Russia: PR: ENC 1102 or POS 2041 or C.I. Study of the origins, institutions, and functioning of the Russian system, including the lingering influence of the old order on domestic and foreign policy. *Occasional.*

CPO 4710 COS-POLS 3(3,0)
Women in Comparative Politics: PR: ENC 1102 or POS 2041 or C.I. A cross-national perspective on women and politics; how women behave politically in various political and economic contexts. *Occasional.*

CPO 4731 COS-POLS 3(3,0)
Politics of Democratization: PR: POS 2041 or ENC 1102 or INR 2002 or Junior standing or C.I. Develops comparative perspectives and analytical skills on issues of democratization and regime change. *Occasional.*

CPO 4754 COS-POLS 3(3,0)
Comparative Political Institutions: PR: ENC 1102 or POS 2041 or C.I. The course analyzes major types of political institutions from a comparative perspective including electoral laws, division of power, types of democracy, federalism, and the judiciary. *Occasional.*

CPO 4784 COS-POLS 3(3,0)
Political and Economic Inequality in Comparative Perspective: PR: ENC 1102 or POS 2041 or C.I. Economic and political inequality and the nature of the link between them across countries with different political and economic institutions. *Occasional.*

CPO 4794 COS-POLS 3(3,0)
Indigenous Politics and the Environment: PR: POS 2041 or C.I. Unique environmental politics specific to indigenous peoples around the world. *Occasional.*

CRW 3010H CAH-ENG 3(3,0)
Honors Creative Writing: PR: Consent of Honors. Theory and techniques of literary genres with honors level content; practice and critique of original writing by peers and critical reading of established authors. *Occasional.*

CRW 3011 CAH-ENG 3(3,0)
Creative Writing for Non-Majors: PR: Grade of C (2.0) or better required in ENC 1102. Only open to non-majors. The techniques of literary genres; the practice and critique of original work by peers; critical reading of established authors. Designed for non-majors. Not open to students with credit in CRW 3013. *Fall, Spring.*

CRW 3013 CAH-ENG 3(3,0)
Creative Writing for English Majors: PR: English major or minor and grade of "C" (2.0) or better required in ENC 1102, or C.I. Literary genres; practice and critique of peer writing; critical reading of established authors. *Fall, Spring.*

CRW 3053 CAH-ENG 3(3,0)
Theory & Practice of Creative Writing: PR: English major or minor and a grade of "C" (2.0) or better in ENC 1102, or C.I. Examination of the genres and readings in contemporary creative writing with attention to literary technique, and discussion of issues in the field. *Fall, Spring.*

CRW 3120 CAH-ENG 3(3,0)
Fiction Writing Workshop: PR: English major or minor, junior standing, and grade of C (2.0) or better required in CRW 3013 and CRW 3053, or C.I. An intermediate level fiction writing workshop for English majors; group analysis and criticism; close reading of contemporary fiction and fiction theory. *Fall, Spring.*

CRW 3211 CAH-ENG 3(3,0)
Creative Nonfiction Writing: PR: English major or minor, junior standing, and grade of C (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Writers present original nonfiction writing for class response and individual conferences. Reading of key works of creative nonfiction with discussion of definitions of the genre. *Fall, Spring.*

CRW 3310 CAH-ENG 3(3,0)
Poetry Writing Workshop: PR: English major or minor, junior standing, and a grade of C (2.0) or better required in CRW 3013 and CRW 3053, or C.I. An intermediate level poetry workshop for English majors. Group analysis and criticism; close reading of contemporary poetry and poetic theory. *Fall, Spring.*

CRW 3311 CAH-ENG 3(3,0)
Readings in Poetry for Creative Writing: PR: English major or minor, junior standing, and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Intensive study of the structural characteristics of English, poetry, metrical systems, rhyme, scansion, and poetic rhetorical devices. *Occasional.*

CRW 3540 CAH-ENG 3(3,0)
Literary Magazines: PR: English major or minor and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Examination of fiction and poetry trends in current literary magazines, identifying editorial policies in publication of contemporary literature. *Occasional.*

CRW 3610 CAH-ENG 3(3,0)
Writing Scripts: PR: English major or minor and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Theory and practice of writing scripts for film and TV. *Fall, Spring.*

CRW 3713 CAH-ENG 3(3,0)
Writing for Video Games: PR: English major or minor and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Basic theories and practices associated with game design. Students learn effective writing techniques for developing original video games. *Occasional.*

CRW 3950 CAH-ENG 3(3,0)
Cypress Dome Editorship: PR: C.I. Responsibility for all aspects of editing The Cypress Dome-UCF's student literary journal. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

CRW 4014 CAH-ENG 3(3,0)
The Writing Life: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3013, CRW 3053 and at least one of CRW 3120, CRW 3211, CRW 3310, or CRW 3610 or C.I. Critical/non-fiction/craft works and fictional works by a series of authors. *Occasional.*

CRW 4114 CAH-ENG 3(3,0)
History of Prose Style: PR: English major or minor and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Close study of style and craft in exemplary works of fiction and creative nonfiction from various time periods. *Occasional.*

CRW 4122 CAH-ENG 3(3,0)
Advanced Fiction Writing Workshop: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3120, or C.I. Intensive writing practice in fiction. Peer critique and group discussion of original manuscripts. *Fall, Spring.*

CRW 4123 CAH-ENG 3(3,0)
Science Fiction Writing: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3120, or C.I. Study of science fiction literature and writing of original science fiction stories. Workshop format with critique of writing assignments. *Occasional.*

CRW 4224 CAH-ENG 3(3,0)
Advanced Nonfiction Workshop: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3211, or C.I. Intensive reading, writing, and workshop of creative nonfiction drawing on memory, observation, journalistic research, and literary techniques. *Fall, Spring.*

CRW 4320 CAH-ENG 3(3,0)
Advanced Poetry Writing Workshop: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3310, or C.I. Intensive writing practice in poetry. Peer critique and group discussion of original manuscripts. *Fall, Spring.*

CRW 4616 CAH-ENG 3(3,0)
Advanced Scriptwriting Workshop: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3610, or C.I. Intensive practice in writing scripts. Peer critique and group discussion of original manuscripts. *Fall, Spring.*

CRW 4722 CAH-ENG 3(3,0)
Editing for Creative Writers: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3013, CRW 3053 and at least one of CRW 3120, CRW 3211, CRW 3310, or CRW 3610 or C.I. Overview of editing processes, the history and future of editing, issues and areas of literary and trade book publishing, and style through grammar and syntax. *Occasional.*

CRW 4724 CAH-ENG 3(3,0)
The Florida Review: PR: English major or minor, junior standing, and a grade of "C" (2.0) or better required in CRW 3013, CRW 3053, and C.I. Hands-on experience with all aspects of Florida Review publishing, editing, and production in conjunction with this national journal. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

CRW 4804 CAH-ENG 3(3,0)
Creative Writing in the Community: PR: English major or minor, and grade of C (2.0) or better required in CRW 3013, CRW 3053 and at least one of CRW 3120, CRW 3211, CRW 3310, or CRW 3610 or C.I. Teaching creative writing to community groups through service-learning. *Occasional.*

CRW 5020 CAH-ENG 3(3,0)
Graduate Writing Workshop: PR: Admission to Creative Writing MFA and C.I. Student writers present their own work, receiving detailed analysis of its strengths and weaknesses from their fellow writers and from the teacher. May be used in the degree program a maximum of 5 times. *Fall, Odd Spring.*

UCF Courses and Descriptions

CRW 5130 CAH-ENG 3(3,0)
Form and Theory in Creative Writing: PR: Admission to Creative Writing MFA or C.I. Formal and theoretical study of creative writing of given genre (poetry, short fiction, etc.). May be used in the degree program a maximum of 3 times. *Occasional.*

CRW 5948C CAH-ENG 3(2,1)
Creative Writing Service Learning: PR: Admission to Creative Writing MFA or C.I. On-site experience leading and sharing creative writing in community settings. May be used in the degree program a maximum of 3 times. *Occasional.*

CWR 3201 ECS-CECE 3(3,0)
Engineering Fluid Mechanics: PR: MAP 2302, EGN 3310 both with a grade of "C" (2.0) or better; CR: EGN 3321. Fundamentals of fluid mechanics with hydraulic applications: fluid properties, hydrostatics, dimensional analysis, energy, momentum, continuity, and steady flow. *Fall, Spring.*

CWR 4120 ECS-CECE 3(3,0)
Hydrology: PR: CWR 4202C and STA 3032 both with grades of "C" (2.0) or better. Occurrence, distribution, and properties of fresh water on Earth and movement via physical processes. Application of hydrology, fluid mechanics, and computation to water resources. *Fall, Spring.*

CWR 4124 ECS-CECE 3(3,0)
Hydrogeology: PR: CWR 4202C and CEG 4011C both with grades of "C" (2.0) or better. Fundamentals of subsurface flow and transport, role of groundwater in the hydrologic cycle, relation of groundwater flow to geologic structure, and management of contaminated groundwater. *Spring.*

CWR 4202C ECS-CECE 3(3,2)
Hydraulics: PR: CWR 3201 with a grade of "C" (2.0) or better. Application of basic principles of fluids at rest and in motion to analysis and design of hydraulic systems. Empirical relationships for practical engineering problems. *Fall, Spring.*

CWR 4632C ECS-CECE 4(3,2)
Water Resources Engineering I: PR: STA 3032 and CWR 3201 both with a grade of "C" (2.0) or better. Descriptive and quantitative aspect of water in the earth's environment and its engineering implications, including analysis of surface water systems, design of hydraulic structures, and stormwater management. *Fall, Spring.* M&S fee \$21.00

CWR 4633C ECS-CECE 3(3,2)
Water Resources Engineering II: PR: CWR 4632C with a grade of "C" (2.0) or better. Provision of advanced understanding of hydrology, hydrologic river routing, open/closed channel, and groundwater hydraulic and some engineering applications of these concepts. *Fall, Spring.*

CWR 4812C ECS-CECE 3(2,2)
Water Resources Design: PR: CWR 4120 with a grade of "C" (2.0) or better and department consent. Project course for the design of storm water, potable and sewer transmission systems using local and state regulations. *Fall, Spring.* M&S fee \$15.00

CWR 5125 ECS-CECE 3(3,0)
Groundwater Hydrology: PR: CWR 4633C or C.I. Theories of groundwater movement, geological factors, analysis and design techniques, etc. Emphasis on practical considerations. *Occasional.*

CWR 5205 ECS-CECE 3(3,0)
Hydraulic Engineering: PR: CWR 4633C or C.I. Concepts of fluid mechanics and hydrodynamics applied to natural and man-made flow of intent to civil and environmental engineering. *Occasional.*

CWR 5515 ECS-CECE 3(3,0)
Numerical Methods in Civil and Environmental Engineering: PR: CWR 4633C or C.I. This course will present intermediate to advanced numerical methods theory and include code development and error assessment, while targeting civil and environmental engineering applications. *Occasional.*

CWR 5545 ECS-CECE 3(3,0)
Water Resources Engineering: PR: CWR 4633C or C.I. Systems identification and solution to complex water allocation problems, and other hydraulic engineering designs and operations using economic analysis and operations research techniques. *Occasional.*

CWR 5634 ECS-CECE 3(3,0)
Water Resources in a Changing Environment: PR: CWR 4632C. To model and understand potential impact of climate change and human activities on hydriodic systems and various spatial and temporal scales. *Odd Fall.*

DAA 2000C CAH-THEA 2(2,2)
Introduction to Theatre Dance: Basic ballet, tap, and jazz technique. Recommended for students with no formal dance training. May be used in the degree program a maximum of 2 times. *Occasional.*

DAA 2100C CAH-THEA 2(2,1)
Modern Dance I: PR: Declared Theatre major or Dance minor and "C" (2.0) or better in DAA 2200C or department consent. Exploration of form, style, and technique in creative movement. Includes practical class work and history lectures. *Spring.*

DAA 2200C CAH-THEA 2(2,1)
Ballet I: PR: Theatre major, Dance minor, or department consent. Fundamentals of classical ballet; includes practical dance work as well as dance history lectures. *Fall.*

DAA 2201C CAH-THEA 2(2,1)
Ballet II: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2200C. Intermediate classical ballet technique, including principles, theory, and practice technique. *Spring.*

DAA 2300 ED-E&HS 2(2,0)
Ballroom Dance: Instruction in selected ballroom dances (foxtrot, waltz, rumba, swing, samba, cha cha, tango, quickstep) focusing on dance and fitness aspects of ballroom dancing. *Fall, Spring.*

DAA 2351 ED-E&HS 2(2,0)
Salsa & Latin Dance: Instruction in salsa and selected other Latin dances (meringue, bachata, cha cha) focusing on Latin dance and fitness aspects of ballroom dancing. *Fall, Spring.*

DAA 2393C CAH-THEA 2(2,1)
World Dance: PR: Theatre major or Dance minor, and "C" (2.0) or better in DAA 2200C or department consent. Theory and applied technique with focus on one form, such as African dance, Flamenco, Irish dance, Indian dance, etc. *Occasional.*

DAA 2520C CAH-THEA 2(2,1)
Tap Dance I: PR: Theatre major, Dance minor, or departmental consent. Form, style, and technique in the basic fundamental movements of tap dance. *Fall.*

DAA 2521C CAH-THEA 2(2,1)
Tap Dance II: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2520C. Intermediate exploration of form, style, and technique of tap dance. *Spring.*

DAA 2570C CAH-THEA 2(2,1)
Jazz Dance I: PR: DAA 2200C, and Theatre major, or Dance minor, or department consent. Basic movements of American Jazz dance, including practical class work and Jazz dance history. *Fall, Spring.*

DAA 2571C CAH-THEA 2(2,1)
Jazz Dance II: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2570C. Intermediate Jazz dance using theory and practice in jazz technique. *Spring.*

DAA 3004L CAH-THEA 1(0,2)
Dance Studio: PR: Theatre Major, Theatre Minor or Dance Minor and "C" (2.0) or better in any DAA course offered by the Theatre. Periodic attendance at departmental dance classes with permission of individual instructors. Graded S/U. May be repeated for credit. *Fall, Spring.*

DAA 3208C CAH-THEA 2(2,1)
Ballet III: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2201C. Advanced classical ballet technique, including principles, theory, and practice technique. May be repeated for credit. *Fall.*

DAA 3508C CAH-THEA 2(2,1)
Jazz Dance III: PR: Theatre major, Dance minor, or department consent, and "C" (2.0) or better required in DAA 2571C. Advanced study of jazz dance, using theory and practice of jazz technique. May be repeated for credit. *Fall.*

DAA 3524C CAH-THEA 2(2,1)
Tap Dance III: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2521C. Advanced exploration of form, style, and technique of tap dance. May be repeated for credit. *Fall.*

DAA 3612 CAH-THEA 3(3,0)
Dance Improvisation/Composition I: PR: DAA 2100C, Theatre major, Dance minor, or department consent. Theory and practice of dance composition. *Spring.*

DAA 3645 CAH-THEA 2(0,VAR)
Choreography Practicum: PR: Theatre major, Dance minor, or department consent, and C (2.0) or better required in DAA 2100C. Student practice in choreographing a concert dance work for public performance. May be used in the degree program a maximum of 5 times. *Spring.*

DAA 3684 CAH-THEA 1(0,VAR)
Dance Performance: PR: Theatre major, Dance minor, or department consent, "C" (2.0) or better required in DAA 2200C and audition. Student performance in a concert dance work. May be repeated for credit. *Spring.* M&S fee \$15.00

DAE 3370 ED-E&HS 3(1,2)
Dance and Rhythmics: The development of skill proficiency and instructional strategies in rhythmics and dance techniques, and fundamental movement patterns for grades K-12. *Occasional.*

DAN 3134 CAH-THEA 3(3,0)
Dance History I: PR: ENC 1101 or any 2000-level History course or C.I. The roots, trends, and styles of dance from prehistory through the early 20th century. *Fall.*

DEP 2004 COS-PSYCH 3(3,0)
Developmental Psychology: PR: PSY 2012. The effects of genetic, psychological, maturational, and social factors on behavior throughout the life cycle. *Fall, Spring.*

DEP 2004H COS-PSYCH 3(3,0)
Honors Developmental Psychology: PR: PSY 2012 and consent of Honors. Genetic, psychological, maturational, and social factors on behavior throughout the life cycle. With Honors content. *Fall.*

DEP 3202 COS-PSYCH 3(3,0)
Psychology of Exceptional Children: PR: PSY 2012. Psychological problems of exceptional children, including diagnosis, associated emotional problems, effects of institutionalization, special class placement, attitudes, and appropriate intervention methods. *Occasional.*

DEP 3464 COS-PSYCH 3(3,0)
Psychology of Aging: PR: PSY 2012. An examination of basic psychological processes related to the aging process, with emphasis on the applied implications of changes in perceptual-motor, social emotional and cognitive-intellectual functioning. *Occasional.*

DEP 5057 COS-PSYCH 3(3,0)
Developmental Psychology: PR: Graduate status or senior standing or C.I. Psychological aspects of development including intellectual, social, and personality factors. *Spring.*

DIG 2000 CAH-SVAD 3(3,0)
Introduction to Digital Media: PR: ENC 1101 and MAC 1105C. Introduction to history, principles, and processes associated with digital media and designing for digital media with emphasis on production and communication. *Fall, Spring.*

DIG 2030 CAH-SVAD 3(3,0)
Digital Video Fundamentals: PR: ENC 1101, MAC 1105C; CR: DIG 2000. Introduces concepts and principles of producing and assembling digital video and the tools and techniques of video and sound capture. *Fall, Spring.*

DIG 2109 CAH-SVAD 3(3,0)
Digital Imaging Fundamentals: CR: DIG 2000. Introduces concepts and principles of image creation, and the tools and techniques of image capture, creation, manipulation, and integration for design concepts. *Fall, Spring.*

DIG 2500 CAH-SVAD 3(3,0)
Fundamentals of Interactive Design: CR: DIG 2000. Foundations of interactive media including user-interface design. Students combine audio, video, imaging, and animation using industry standard software. *Fall, Spring.*

DIG 3003 CAH-SVAD 3(3,0)
Adventures in Emerging Media: PR: ENC 1101. Examines the rules and culture of emerging media. The course is presented online in a nonlinear "choose your own adventure" format. *Occasional.*

DIG 3024 CAH-SVAD 3(3,0)
Digital Cultures & Narrative: PR: DIG 2030, DIG 2109, DIG 2500, and a minimum grade of "B" (3.0) in DIG 2000. Understanding of digital cultures and narrative theories from an interdisciplinary perspective. Conceptual structure and design of visual and interactive storytelling. *Fall, Spring.*

DIG 3043 CAH-SVAD 3(3,0)
Evolution of Video Games: PR: ENC 1101. Evolution of video games since the first game in the early 1950s to contemporary games. *Fall, Spring.*

DIG 3118 CAH-SVAD 3(3,0)
Digital Tools and Technologies: Graphic Design: PR: Grade of "C" (2.0) or better in DIG 2000 or C.I. Composition, editing, and manipulation of digital imagery using Adobe Photoshop, including layering, typographic design and working with 3D images. *Fall, Spring.*

DIG 3134 CAH-SVAD 3(3,0)
Media Software Design: PR: DIG 3480. Fundamentals of interactive software development within Internet environments. Focus on server-side scripting methodologies and database design. *Fall, Spring.*

DIG 3153 CAH-SVAD 3(3,0)
Writing for Digital Media: PR: Minimum grade of "B" (3.0) in DIG 2000. Methodologies, fundamentals, and history of written communications for the digital age. Application of methods and fundamentals in the following areas: language theory, document design, markup languages and the editing process. *Fall, Spring.*

DIG 3171 CAH-SVAD 3(3,0)
Tools for Digital Humanities: PR: ENC 1102 or C.I. Examination of digital tools and techniques, including web and games, used for projects and research in digital humanities. *Occasional.*

DIG 3253C CAH-SVAD 3(2,2)
Digital Media Audio: PR: DIG 3480. Audio production processes for multimedia and new media production, including examination and use of audio and MIDI sequencing software. *Fall, Spring.*

DIG 3355C CAH-SVAD 3(2,2)
Artificial Environments and Effects: PR: DIG 2109 and C.I. CR: DIG 3951. Design and manipulation to convey a story, thought, and concept in visual medium. New imagery in motion such as non-character entities, music videos, and scientific visualization. *Fall, Spring.*

DIG 3362C CAH-SVAD 3(2,2)
Artificial Characters: PR: DIG 2109 and C.I. CR: DIG 3951. Processes and techniques for design and manipulation of artificial characters to convey story, thought, or concept in a visual medium. *Fall, Spring.*

DIG 3433C CAH-SVAD 3(2,2)
Visual Storytelling and Visual Development: PR: DIG 2109 and DIG 2500 and C.I. CR: DIG 3951. Processes and techniques to transform story concepts into a producible visual experience. *Fall, Spring.*

DIG 3450 CAH-SVAD 3(3,0)
Interactive Performance I: PR: Admission by audition only. Digital Media, Theatre majors, or C.I. Techniques of interactive acting, with emphasis on interpersonal awareness and audience facilitation. *Fall, Spring.*

DIG 3450H CAH-SVAD 3(3,0)
Honors Interactive Performance I: PR: C.I. and consent of Honors. Techniques of interactive acting, with emphasis on interpersonal awareness and audience facilitation. With Honors content. *Occasional.*

DIG 3480 CAH-SVAD 3(3,0)
Computer as a Medium: PR: DIG 2500 and a minimum grade of "B" (3.0) in DIG 2000. Fundamentals of client-side scripting with an emphasis on web technologies. Development of interactive web sites using current scripting languages. *Fall, Spring.*

DIG 3525 CAH-SVAD 3(3,0)
Digital Media Production I: PR: DIG 2030, DIG 2109, DIG 2500, and a minimum grade of "B" (3.0) in DIG 2000. Media project planning, organization and execution; group dynamics. Software tools for project planning, scheduling and management. *Fall, Spring.*

DIG 3543C CAH-SVAD 3(2,2)
The Production Process: PR: DIG 2030 and DIG 2109 and C.I. CR: DIG 3951. Production in a visual medium from narrative idea to finished artifact. *Fall, Spring.*

DIG 3554 CAH-SVAD 3(3,0)
Digital Tools and Technologies: Web Design: PR: Grade of "C" (2.0) or better in DIG 2000 or C.I. Creative and functional website design and development using Adobe Dreamweaver, including use of CSS, HTML, and incorporation of media and mobile design. *Fall, Spring.*

DIG 3563 CAH-SVAD 3(3,0)
Information Management and Entrepreneurship: PR: DIG 3525. Managing digital assets from both technical and fiduciary aspects with a view towards creating, storing, retrieving assets, and authoring of databases and file types. Introduction of basic financial and entrepreneurial elements of starting and running a small business. *Fall, Spring.*

DIG 3716C CAH-SVAD 3(2,2)
Internet Interaction: PR: DIG 3480. Front end planning and design of web pages. Design using markup languages and style sheets to produce visually pleasing and usable interactive interfaces. *Fall, Spring.*

DIG 3811 CAH-SVAD 3(3,0)
User-Centered Design: PR: DIG 3525. Applying knowledge about cognition and behavior to design usable interfaces and systems. *Fall, Spring.*

DIG 3951 CAH-SVAD 0(0,0)
Character Animation Portfolio Review: PR: C.I. Review of relevant digital and artistic works in a student's portfolio. Graded S/U. *Fall.*

DIG 4104C CAH-SVAD 3(2,2)
Web Design Workshop: PR: DIG 3134C, DIG 3716C, DIG 3563, and DIG 3811. Students will practice designing and implementing professional-quality websites. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

DIG 4204C CAH-SVAD 3(2,2)
Generating and Manipulating Digital Imagery: PR: DIG 2030, DIG 2109, and DIG 2500, or C.I. CR: DIG 3951. Core techniques for creating and manipulating second and third digital representations. *Fall, Spring.*

DIG 4206C CAH-SVAD 3(1,4)
New Imagery in Motion Workshop: PR: DIG 4325C, successful portfolio review, or C.I. Conceptual and technical aspects of scripting, image processing, 3D/2D data acquisition while practicing the use of generators, filters, particles, masks, and audio into digital projects. *Spring.*

DIG 4323C CAH-SVAD 3(1,4)
Modeling for Visual Language: PR: DIG 4451C or C.I. Application of techniques taught to model, rig, and prepare artificial characters so that they may be animated effectively and express narrative for digital production. *Fall.*

DIG 4324C CAH-SVAD 3(2,2)
Modeling for Realtime Systems II: PR: DIG 4780C. Advanced techniques for character animation, texture, lighting, rendering. Project oriented. *Spring.*

DIG 4325C CAH-SVAD 3(1,4)
Look Modeling Workshop: PR: DIG 4780C and successful portfolio review, or C.I. Techniques, mechanics of designing, developing finished look emphasis on rendering, shading, texturing, and lighting. *Spring.*

DIG 4326C CAH-SVAD 3(1,4)
Geometrical Modeling Workshop: PR: DIG 4780C and successful portfolio review or C.I. Techniques and mechanics of designing and manipulating geometrical representations of artificial characters and their environments; introduction to procedural models. *Spring.*

DIG 4354C CAH-SVAD 3(1,4)
Advanced 3D Animation: PR: DIG 4323C, successful portfolio review, or C.I. Advanced tools, concepts and techniques developed in the previous 3D animation courses. Students apply techniques to 3D character animation. *Spring.*

DIG 4359C CAH-SVAD 3(1,4)
Artificial Environments and Effects Workshop: PR: DIG 3355C and successful portfolio review, or C.I. Techniques and mechanics of artificial environments, with emphasis on compositing, image processing, visual style, visual continuity. *Spring.*

DIG 4369C CAH-SVAD 3(1,4)
Artificial Characters Workshop: PR: DIG 3362C and successful portfolio review, or C.I. Techniques and mechanics of artificial characters, with emphasis on attitude in action, personality of character expressions, and bringing characters to life. *Spring.*

DIG 4373C CAH-SVAD 3(1,4)
3D Textures: PR: DIG 4323C or C.I. Advanced application of lighting and surface attributes, improving on the tools, concepts, and techniques learned in previous 3D courses. *Spring.*

DIG 4394C CAH-SVAD 3(1,4)
Motion Graphics: Advanced Compositing: PR: DIG 4359C, successful portfolio review, or C.I. Advanced techniques including 3D modeling, texturing, lighting, particles, and compositing to create motion graphics. Manage and navigate objects, images and other media in visual narratives, as pertaining to 3-D Content. *Spring.*

DIG 4395 CAH-SVAD 3(3,0)
Motion Capture for Performance: PR: MAC 1105C, and DIG 3480 or TPA 2200, or C.I. Develop creative skills, learn theory and technology of motion capture systems for live and recorded dramatic performance, augmented & virtual reality, training, and educational applications. *Spring.*

DIG 4434C CAH-SVAD 3(1,4)
Narrative Techniques in the Moving Image: PR: DIG 4451C, successful portfolio review, or C.I. Advanced application of techniques in Visual Language employed in story production focusing on advancing a narrative and evoking emotion. *Spring.*

DIG 4451C CAH-SVAD 3(1,4)
Visual Storytelling and Visual Development Workshop: PR: DIG 3433C and successful portfolio review, or C.I. Techniques, mechanics of visual development with emphasis on strong visual designs which communicate effectively. *Odd Spring.*

DIG 4455 CAH-SVAD 3(3,0)
Interactive Performance II: PR: DIG 3450C or C.I. Continuation of Interactive Performance I, with focus on the integration of actors, audience participation, technology, and story structure. *Spring.*

DIG 4486C CAH-SVAD 3(1,4)
Visual Language of Moving Image II: PR: DIG 3433C, successful portfolio review, or C.I. Application of techniques taught to design, create, and refine visual development, story board, story reel, character design, and animation that expresses a narrative for digital production. *Fall.*

UCF Courses and Descriptions

DIG 4503 CAH-SVAD 3(3,0)
Rapid Application Web Development: PR: DIG 3134 and DIG 3716C. Asynchronous web development using current server-side and client-side scripting techniques and database technologies. *Spring.*

DIG 4522 CAH-SVAD 3(3,0)
Digital Media Service: PR: DIG 3035. Practicum in which students utilize their digital media skills to create media rich products. May be used in the degree program a maximum of 4 times. *Fall, Spring.*

DIG 4526 CAH-SVAD 3(3,0)
Digital Media Production II: PR: DIG 3525 and a minimum grade of "B" (3.0) or better in DIG 2000. Management and execution of large digital media projects, using structured methods and tools learned in Digital Media Production I. *Fall, Spring.*

DIG 4530C CAH-SVAD 3(2,2)
Media for e-Commerce: PR: DIG 3134C and DIG 3716C. The applications of server-side internet programing languages and media theory to e-commerce, internet security, and online portals. *Fall, Spring.*

DIG 4624C CAH-SVAD 3(1,4)
Digital Production in Artificial Environments: PR: DIG 4359C, successful portfolio review, or C.I. Application of techniques to continue building artificial environments and effects, addressing lighting, continuity, movement, theme and mood to help express a narrative for digital production. *Fall.*

DIG 4630C CAH-SVAD 3(2,2)
Media Business Practices: PR: DIG 3525. Media business practices for working with interactive web sites and other media interfaces. Covers skills related to e-commerce and other forms of dynamic media. *Fall, Spring.*

DIG 4693C CAH-SVAD 3(2,2)
Production Software Workshop: PR: DIG 3134C or C.I. Advanced programming techniques for a variety of web-based applications using ActionScript, including dynamic and input text, variables, physics, artificial intelligence, collision detection, user interaction, and animation. *Spring.*

DIG 4704 CAH-SVAD 3(3,0)
Interactive Entertainment: PR: DIG 3525 or C.I. Ways to apply diverse skills of film making to digital media, non-linear story telling, virtual reality, video games and non-traditional education and military simulation. *Fall, Spring.*

DIG 4713 CAH-SVAD 3(3,0)
Game Design: PR: DIG 3024, DIG 3525 and declared Game Design Track. Principles and theories of video game design, including software, content, interaction, and game play design. Project based. *Fall, Spring.*

DIG 4715C CAH-SVAD 3(2,2)
Game Production: PR: A minimum grade of "B" (3.0) in DIG 4713 and a satisfactory portfolio review. Principles and theories of video game production, including project planning, scripting, 3D modeling and texturing, level design, and audio. Project based. *Fall, Spring.*

DIG 4720C CAH-SVAD 3(2,2)
Casual Game Production: PR: DIG 2500, a minimum grade of "B" (3.0) in DIG 4713, and a satisfactory portfolio review. Students will learn to design and implement casual video games using professional tools and iterative design techniques. *Fall, Spring.*

DIG 4725C CAH-SVAD 3(2,2)
Game Design Workshop: PR: DIG 4715C, FIL 3720C, a minimum grade of "B" (3.0) in DIG 4713, and a satisfactory portfolio review. Students will learn to design and implement video games using professional tools and iterative design techniques. May be used in the degree program a maximum of 4 times. *Fall, Spring.*

DIG 4780C CAH-SVAD 3(2,2)
Modeling for Realtime Systems: PR: DIG 2109 and a minimum grade of "B" (3.0) in DIG 2000. Principles of construction of 3D models for real-time applications. Topics include level of detail management and efficiency versus visual quality for video games and simulation. *Fall, Spring.*

DIG 4855 CAH-SVAD 3(3,0)
Converging Media Capstone: PR: GEB 3031 Cornerstone and 12 hours of restrictive electives within the Visual Arts and Emerging Media Management Track. Team based converging media projects leading to a capstone project that emphasizes creative thinking, proto-typing, development, marketing and assessment paralleling the business world. *Even Fall, Even Spring.*

DIG 5045C CAH-FIEA 3(1,3)
Principles of Interactive Entertainment I: PR: Admission to Digital Media MS program or C.I. Interactive digital content creation technologies and development processes. *Fall.*

DIG 5046C CAH-FIEA 3(1,3)
Principles of Interactive Entertainment II: PR: DIG 5045C or C.I. Advanced principles of interactive digital content creation technologies and development processes. *Fall.*

DIG 5137 CAH-SVAD 3(3,0)
Information Architecture: PR: Film and digital media majors or C.I. Exploration of the process of formal design of interactive processes, examining the theories of usability and object oriented design. *Fall.*

DIG 5487 CAH-SVAD 3(3,0)
Principles of Visual Language: PR: Film and digital media majors or C.I. Overview of Visual Language, including the nature of perceptions and cognitions of imagery. *Fall.*

DIG 5529C CAH-FIEA 3(1,3)
Production for Media: PR: Admission to Digital Media MS program or C.I. Theories and practices of production processes for interactive entertainment. *Fall.*

DIG 5548C CAH-FIEA 3(1,3)
Rapid Prototype Production I: PR: Admission to Digital Media MS or C.I. Students engage in interdisciplinary teams to create rapid development projects. *Fall.*

DIG 5549 CAH-FIEA 3(3,0)
Experimentation, Application, and Innovation in Games: PR: DIG 5529C or C.I. Survey and development of games being used in non-traditional applications, such as medical simulation, education and research. *Spring.*

DIG 5565C CAH-SVAD 3(1,3)
Digital Asset Management Systems: PR: Graduate standing or C.I. Structure and use of Digital Asset Management Systems (DAMS). Protection of intellectual property rights by encryption, water marking, steganography. Version and work process flow control systems. *Occasional.*

DIG 5637 CAH-FIEA 3(3,0)
Game Programming Fundamentals: PR: Admission to FIEA M.S. in Interactive Entertainment program or C.I. An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development. *Fall.*

DIG 5810 CAH-SVAD 3(3,0)
Ways of Seeing: Cultural and Technological Perspectives: PR: Admission to Film and Digital Media master's program or C.I. Cultural and technological perspectives formed by the intersection of media and cultural studies, art history and criticism, and cinema studies. *Fall.*

DIG 5875C GRDST-INTERDIS 3(2,2)
Introduction to Modeling and Simulation: PR: STA 2023 or equivalent. Introduction to the theory and practice of modeling and simulation with emphasis on multidisciplinary scientific underpinnings. *Fall.*

DIG 5876 GRDST-INTERDIS 3(3,0)
Quantitative Aspects of Modeling and Simulation: PR: Graduate Standing or C.I. Introduction to matrix algebra and other discrete mathematics topics for modeling and simulation applications. *Spring.*

DSC 4012 HPA-CJ 3(3,0)
Terrorism: PR: Sophomore Standing and ENC 1102. An examination of competing ideologies of a variety of social and political conflicts (both international and domestic) that give rise to terrorism and of the implications for the criminal justice system. *Occasional.*

DSC 4013 HPA-CJ 3(3,0)
Homeland Security and Criminal Justice: PR: Sophomore standing and ENC 1102. Analysis of homeland safety and security in contemporary society and government. *Occasional.*

EAB 3703 COS-PSYCH 4(4,0)
Principles of Behavior Modification: PR: PSY 2012. An examination of the control of behavior through applications of principles and theories of learning. Examples are drawn from clinical and social psychology and from child rearing. *Fall.*

EAB 3706 COS-PSYCH 4(4,0)
Behavior Modification - Part II: PR: EAB 3703C. Continued examination of the principles of behavior analysis and their application, as well as ethical issues related to the delivery of behavior analysis programs. *Occasional.*

EAB 5765 COS-PSYCH 3(3,0)
Applied Behavior Analysis with Children and Youth: PR: Graduate standing or senior standing or C.I. Advanced survey of principles, procedures, and techniques of applied behavior analysis, with special attention to applications with children and youth. *Occasional.*

EAP 1850 CAH-LANG 6(6,0)
English for Academic Purposes I: PR: Admission to the Global Achievement Academy (GAA). Development of academic skills for international students. Topics include academic reading and vocabulary development; listening and note-taking; and writing practice and oral communication. *Fall, Spring.*

EAP 2851 CAH-LANG 3(3,0)
English for Academic Purposes II: PR: Admission to the Global Achievement Academy (GAA) and a grade of "C" (2.0) or higher in EAP 1850 or consent of Global Achievement Academy. Development of advanced academic skills for international students. Topics include academic reading and vocabulary development; listening and note-taking; and writing practice and oral communication. *Fall, Spring.*

EAS 3010 ECS-MECH/AERO 3(3,0)
Fundamentals of Aerospace Flight: PR: EGN 3321 and a "C" (2.0) or better in all of the following prerequisites: MAC 2311C, MAC 2312 and PHY 2048; CR: EGN 3343. Fundamental theories of inviscid, incompressible aerodynamics and flight mechanics, airflow theory, external and internal flows, airplane performance. *Fall.*

EAS 3101 ECS-MECH/AERO 3(3,0)
Fundamentals of Aerodynamics: PR: EML 3701. Viscous, incompressible fluid flow; flow over finite wings; aerodynamic design; introduction to computational fluid dynamics. *Spring.*

EAS 3530 ECS-MECH/AERO 3(3,0)
Space Systems Concepts: PR: EGN 3321, PHY 2049C, MAP 2302. Physical and engineering aspects of current space flights. Space nuclear propulsion and power. Design of spacecraft for space environment. Communication with spacecraft. Space-borne instrumentation. *Spring.*

EAS 3800C ECS-MECH/AERO 3(2,3)
Aerospace Engineering Measurements: PR: EGN 3343, CR: EGM 3601. Theory, calibration and use of instruments. Measurement techniques, data analysis, report writing. Laboratory topics related to aerospace engineering. *Fall.* M&S fee \$15.00

EAS 3810C ECS-MECH/AERO 3(1,3)
Design of Aerospace Experiments: PR: EAS 3800C; and EAS 3010 or EML 3701. Extension of EAS 3800C. Design of experiments in aeronautic/aerospace systems with emphasis on project team activity. *Spring.* M&S fee \$45.00

EAS 3933 ECS-MECH/AERO 0(0,0)
Aerospace Career and Academic Faculty Advising I: PR: MAP 2302. Mandatory meeting with students and their faculty advisor for career/academic advising. Graded S/U. *Fall, Spring.*

EAS 4105 ECS-MECH/AERO 3(3,0)
Flight Mechanics: PR: EAS 3101; CR: EML 4225.
 Analysis and design of aircraft performance, static and dynamic stability and automatic control systems. *Fall.*

EAS 4134 ECS-MECH/AERO 3(3,0)
High-Speed Aerodynamics: PR: EAS 3101.
 Normal and oblique shock waves, nozzles and wind tunnels, methods of analyzing compressible flow about airfoils, wings, and bodies. Viscous boundary layers and applications to the design process. *Fall.*

EAS 4154 ECS-MECH/AERO 3(3,0)
Rotorcraft Aerodynamics: PR: EAS 3010.
 Helicopter aerodynamics. Momentum and blade element theories applied to hover, vertical and forward flight. Factors affecting design, performance & stability will be discussed. *Occasional.*

EAS 4200 ECS-MECH/AERO 3(3,0)
Analysis & Design of Aerospace Structures: PR: EGM 3601. Aerospace structures and components, loads, bending, shear and torsion of thin-walled open and closed section beams, structural idealization, analysis of fuselage and wing sections, structural instability (buckling) of columns and monocoque cylinders. *Fall.*

EAS 4300 ECS-MECH/AERO 3(3,0)
Aerothermodynamics of Propulsion Systems: PR: EAS 4134 or EML 4703. Fundamental analysis and design considerations of propulsion systems. Turbojets, ramjets and rockets. *Spring.*

EAS 4400 ECS-MECH/AERO 3(3,0)
Spacecraft Attitude Dynamics: PR: EML 4312C or EML 4225. Kinematics and dynamics of rigid and multibody spacecraft rotational motion. Attitude control with momentum exchange actuators and thrusters. *Occasional.*

EAS 4404C ECS-MECH/AERO 3(2,3)
Discrete Control in Aerospace Vehicles: PR: EAS 3800C; and (EAS 4210 and EML 4312C) or (EML 4225 and EML 4313). Discrete control aspects of aerospace vehicles, digital controller, design, state-space representation, Z-transform, system response. *Spring.* M&S fee \$15.00

EAS 4505 ECS-MECH/AERO 3(3,0)
Orbital Mechanics: PR: EGN 3321 and a "C" (2.0) or better in all of the following: MAC 2311C, MAC 2312, MAC 2313, MAP 2302 and PHY 2048. Two-body problem, orbital equations, orbital transfer, earth satellite operation. *Spring.*

EAS 4700C ECS-MECH/AERO 3(1,6)
Aerospace Design I: PR: EGN 3373, EAS 3800C, (EAS 3010 or EML 3701), EML 4142, EML 4225, and department consent; CR: EAS 4991. Application of the design process to the team solution of a state-of-the-art problem. Airplanes and space vehicles, systems and devices are considered. *Fall, Spring.*

EAS 4703C ECS-MECH/AERO 3(2,4)
Small Satellite Payloads and Integration: PR: EML 3303C or EAS 3800C or EEL 3801C or ESI 4523. Evaluate overall impact of integration and design concepts on various satellite component subsystems and their payloads into a small satellite system design leading to a final configuration. *Occasional.* M&S fee \$45.00

EAS 4710C ECS-MECH/AERO 3(1,6)
Aerospace Design II: PR: EAS 4700C, EAS 4931. Continuation of the design process in the team building and testing of a prototype/model of an airplane, spacecraft, system or device. *Fall, Spring.* M&S fee \$60.00

EAS 4931 ECS-MECH/AERO 0(0,0)
Aerospace Career and Academic Faculty Advising II: PR: EAS 3933 and department consent. Mandatory meeting with students and their faculty advisor for career/academic advising. Graded S/U. *Fall, Spring.*

EAS 5123 ECS-MECH/AERO 3(3,0)
Intermediate Aerodynamics: PR: EAS 4134; CR: EML 5060. Aerodynamic characteristics of airfoils, finite wings, waves, wing-body combinations, viscous flow and flow instabilities. Airfoil design. *Occasional.*

EAS 5157 ECS-MECH/AERO 3(3,0)
V/Stol Aerodynamics and Performance: PR: EAS 4105; CR: EML 5060. Momentum theory, blade element theory, hover and forward flight, stability, aeroelasticity. *Occasional.*

EAS 5211 ECS-MECH/AERO 3(3,0)
Aeroelasticity: PR: EAS 3101 or EML 3701 and EAS 4210 or EML 4220. Concerned with consequences and trade-offs created by interactions between aerodynamic forces and structural deformation. Static aeroelastic problems; control effectiveness; lift effectiveness; divergence. Dynamic aeroelasticity; flutter and vibration. *Occasional.*

EAS 5302 ECS-MECH/AERO 3(3,0)
Direct Energy Conversion: PR: EML 3101 and EML 4142. Direct methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermionics, solar energy, photovoltaics and magnetohydrodynamics. Analysis and systems design. *Occasional.*

EAS 5315 ECS-MECH/AERO 3(3,0)
Rocket Propulsion: PR: EAS 4134 or EML 4703. Analysis and performance of rocket motors; selection and thermochemistry of chemical propellants: liquid and solid propellant rockets. *Occasional.*

EAS 5407C ECS-MECH/AERO 3(2,3)
Mechatronic Systems: PR: EML 3034C. Discrete control techniques for aerospace mechatronic systems. Controller design, test and evaluation. *Occasional.*

EAS 5535 ECS-MECH/AERO 3(3,0)
Engineering Design for Aerospace Vehicles: PR: EAS 4700C, EAS 4710C, EML 4501C, EML 4502C, or equivalent. Applications of the design process to aerospace vehicles. A system approach will be emphasized. Techniques for optimizing interface requirements will be covered. *Occasional.*

ECM 4504C ECS-ECE 4(3,3)
Embedded Computer Systems: PR: EEL 4768C, EEL 4851C, EEL 4635C. Computer Applications in Systems role, sensor and actuator interfacing. Design projects, including problem statements and specifications, design methodology, implementation, testing, and documentation. *Occasional.*

ECO 2013 BA-ECON 3(3,0)
Principles of Macroeconomics: An introduction to macroeconomics, including an overview of the market economy; national income, employment, and price level determination, stabilization policies, and international economics. *Fall, Spring.*

ECO 2013H BA-ECON 3(3,0)
Honors Principles of Economics Macroeconomics: PR: Permission of Honors. Same as ECO 2013 with honors-level content. *Fall, Spring.*

ECO 2023 BA-ECON 3(3,0)
Principles of Microeconomics: The determination of prices in a market economy; their role in allocating consumer and producer goods and in distributing incomes, including attempts to improve market efficiency through public policy. *Fall, Spring.*

ECO 2023H BA-ECON 3(3,0)
Honors Principles of Microeconomics: PR: Permission of Honors. The determination of prices in a market economy; their role in allocating consumer and producer goods and in distributing incomes, including attempts to improve market efficiency through public policy. Honors content. *Occasional.*

ECO 3070 BA-ECON 1(1,0)
Tutoring/Teaching Techniques for Undergraduate Economics: PR: Satisfactory completion of same course the student is tutoring. Prepare undergraduate students to more effectively learn economics concepts through tutoring/teaching. Graded S/U. May be used in the degree program a maximum of 4 times. *Fall, Spring.*

ECO 3101 BA-ECON 3(3,0)
Intermediate Microeconomics: PR: ECO 2013, ECO 2023 and ECO 3401. Theoretical study of the behavior of households, firms, and the markets in which they operate with issues and applications. *Fall, Spring.*

ECO 3203 BA-ECON 3(3,0)
Intermediate Macroeconomics: PR: ECO 2013 and ECO 2023 and ECO 3401. Measurement, analysis, and control of aggregate economic activity. *Fall, Spring.*

ECO 3223 BA-ECON 3(3,0)
Money and Banking: PR: ECO 2013. Nature of money, commercial banking system, and monetary theory, and their relationship to the level of economic activity and activities of the Federal Reserve and U.S. Treasury. *Odd Spring.*

ECO 3401 BA-ECON 3(3,0)
Quantitative Business Tools I: PR: MAC 1105C with a "C" (2.0) or better. Introduction to mathematical and statistical analysis of economics and business problems. *Fall, Spring.*

ECO 3410 BA-ECON 3(3,0)
Mathematical Economics: PR: ECO 3101. Mathematical methods with particular focus on microeconomics foundations of individual decision-making. *Spring.*

ECO 3411 BA-ECON 3(3,0)
Quantitative Business Tools II: PR: ECO 3401 with a grade of "C" (2.0) or better. The use of statistical methods as scientific tools in the analysis of economics and business problems. *Fall, Spring.*

ECO 3703 BA-ECON 3(3,0)
International Microeconomics: PR: ECO 3101. Fundamental principles of Classical and Neoclassical international trade theories, as well as trade's impact on global resource flows and the impact of trade on the developing world. Trade policy both in theory and practice is also examined. *Fall.*

ECO 3704 BA-ECON 3(3,0)
Global Economic Policy: PR: ECO 2013 and ECO 2023. Interdependent nature of the global economy, its current economic problems and the different policy perspectives and their impact. *Occasional.*

ECO 4303 BA-ECON 3(3,0)
History of Economic Thought: PR: ECO 2013 or ECO 2023. A study of the principal ideas of the major contributors to the development of economic thought. *Occasional.*

ECO 4400 BA-ECON 3(3,0)
Game Theory and Economics: PR: ECO 3101. A study of the strategic decision-making of parties having opposed, mixed, or similar interests. *Fall.*

ECO 4412 BA-ECON 3(3,0)
Econometrics: PR: ECO 2013, ECO 2023 and ECO 3411. Concepts and methods of developing, analyzing, and interpreting measures of economic activity, and business and economic change. *Even Fall.*

ECO 4504 BA-ECON 3(3,0)
Public Economics: PR: ECO 3101. A study of fiscal institutions and decision-making, and how government budgetary policy (spending, taxing, borrowing, and debt management) affects the economy and its citizens. *Occasional.*

ECO 4713 BA-ECON 3(3,0)
International Macroeconomics: PR: ECO 3101 or ECO 3203 or ECO 3223. International macroeconomics with review and analysis of current international macroeconomics, financial issues, policies and events. *Occasional.*

ECO 4751 BA-ECON 3(3,0)
Law and Economics: PR: ECO 2013 and ECO 2023. Impact of law on economic behavior; how economic behavior changes with legal rules and penalties; and the economic logic underlying the law. *Occasional.*

ECO 4902 BA-ECON 1(1,0)
Capstone in Economics: PR: ECO 3101, ECO 3203, ECO 3411, Senior Standing, Economics Major. Students use critical thinking and written communication to integrate and apply material learned in economics courses to economics problem and policies. Graded S/U. *Fall, Spring.*

UCF Courses and Descriptions

ECO 4934 BA-ECON 3(3,0)
Topics in Econometrics: PR: ECO 4412. Emphasis on international topics in linear and nonlinear econometric models. *Spring.*

ECO 4941 BA-ECON 3(3,0)
Economics Internship: PR: Consent of department chair, ECO 3101, and ECO 3203. Supervised economics-related work experience in a pre-approved sponsoring organization. See department for information/application. Graded S/U. *Fall, Spring.*

ECP 3004 BA-ECON 3(3,0)
Seminar on Current Economic Topics: PR: ECO 3101. Content may include, but is not limited to, the analysis of current economic issues and policy, and the study of current economic methods and theories. May be used in the degree program a maximum of 1 times. *Occasional.*

ECP 3006 BA-ECON 3(3,0)
Economics of Sports: PR: ECO 2023. Microeconomics is used to evaluate and analyze the business and practice of sports including the structure and conduct of sports leagues, revenue sharing and other forms of cooperation, labor markets and compensation for professional athletes, public financing of sport facilities, and sports in the not-for-profit sector. *Fall.*

ECP 3203 BA-ECON 3(3,0)
Labor Economics: PR: ECO 3101 or ECP 4703. The analysis of labor problems and issues in a dynamic contemporary economy through the interaction of the four major institutions: households, firms, government, and unions. *Occasional.*

ECP 3302 BA-ECON 3(3,0)
Economics and the Environment: PR: ECO 2023. Analysis of environmental problems from an economic perspective, its relationship to other disciplines, and the international dimension of environmental policy. Not open to Economics majors. *Even Fall.*

ECP 4303 BA-ECON 3(3,0)
Environmental and Natural Resource Economics: PR: ECO 3101. Provide fundamental insights into the interdependence between energy use, environmental quality, and the economy at both the microeconomic and macroeconomic level. *Odd Fall.*

ECP 4403 BA-ECON 3(3,0)
Industrial Organization: PR: ECO 3101. A study of the performance of industries representative of various types of market structure and practices, as well as the public policies affecting these industries. *Fall.*

ECP 4530 BA-ECON 3(3,0)
Health Economics: PR: ECO 3101. Analysis of the market for health and the derived market for health care using intermediate micro-economic modeling. *Fall.*

ECP 4703 BA-ECON 3(3,0)
Managerial Economics: PR: Admission to the Integrated Business major. Applies economic theory, principles, and techniques to business decision making. Students improve critical thinking skills and learn analytical tools needed to address key business issues. *Fall, Spring.*

ECS 4013 BA-ECON 3(3,0)
Development Economics: PR: ECO 2013 and ECO 2023. The study of problems, theories, and issues of economic development in the global economy. *Fall, Spring.*

ECT 3062 ED-CFCS 3(3,0)
Professional Roles of the Career & Technical Teacher: PR: ECT 3365 or C.I. Introspection into career and technical education teaching and the transition from industry to education. *Occasional.*

ECT 3365 ED-CFCS 3(3,0)
General Methods/Testing Evaluation in Career & Technical Education: General teaching methods, testing and evaluation. Techniques specific to Career & Technical Education and Industry Training. *Fall.*

ECT 3367 ED-CFCS 3(3,0)
Evaluation of Career & Technical Education Instruction: PR: ECT 3365 or C.I. Assessing student cognitive, affective, and psychomotor performance in the technical environment. *Spring.*

ECT 3371 ED-CFCS 3(3,0)
Course Construction in Industrial Education: PR: ECT 3365 or C.I. Planning and preparing instructional materials, organizing and managing the Industrial Education laboratory, and involvement in VICA. *Occasional.*

ECT 4004 ED-CFCS 3(3,0)
Principles and Practices of Technical Education: PR: ECT 3365 or C.I. Integrating historical principles, career structure, and current trends in technical education. *Fall.*

ECT 4184 ED-CFCS 3(3,0)
Curriculum Development Techniques for Industry Training: The practical application of fundamental knowledge, important skills, alternative analysis methods, and the critical elements of the trainers analysis tasks. *Spring.*

ECT 4384 ED-CFCS 3(3,0)
Advanced Teaching Techniques for Career Education: PR: ECT 3365 or C.I. Developing techniques including cooperative learning, simulation, instructional modeling, and evaluation of instructional effectiveness. *Fall.*

ECT 4815 ED-CFCS 3(3,0)
Safety in the Technical Education Classroom and Laboratory: PR: ECT 3365 or C.I. Federal regulations, safety practices, guidance, and support materials for technical trainers and teachers in school and industrial settings. *Occasional.*

ECW 3312 ED-CFCS 3(3,0)
Course Construction in Health Occupations Education: PR: ECT 3365 or C.I. Planning and preparation of materials, managing the laboratory and involvement in appropriate Vocational Student Organizations. Clinical instruction related to vocational education and industry training. *Occasional.*

ECW 3564 ED-CFCS 3(3,0)
Special Populations in Career & Technical Education: PR: ECT 3365 or C.I. Overview of strategies and resources in meeting the needs of special populations in career and technical education settings. *Spring.*

ECW 5207 ED-CFCS 2-4(2-4,0)
Management of Vocational Programs: PR: Rank III Certificate or C.I. Study and achievement of selected competencies needed by vocational teachers, supervisors, and local administrators in the management of vocational education programs in the schools. *Occasional.*

ECW 5265 ED-CFCS 2-4(2-4,0)
Cooperative Programs in Vocational Education: PR: Regular Certificate or C.I. Study of cooperative vocational programs and achievement of competencies needed to establish, manage, and coordinate co-op program activities in all vocational areas. *Occasional.*

ECW 5561 ED-CFCS 2-3(2-3,0)
Student Guidance in the Vocational Program: PR: Basic Teacher Certificate or C.I. Achievement of skills used by teachers as they gather student data, confer with students, and help students plan for employment or further education. *Occasional.*

EDE 2280 ED-TL&L 3(3,0)
Arts and Wellness in Elementary Classrooms: Provides the prospective teacher with knowledge, skills, and the dispositions to integrate arts and wellness into the elementary classroom curriculum. *Fall, Spring.*

EDE 3942 ED-TL&L 3(3,0)
Internship I: PR: EDG 4410, RED 3012, RED 4519, MAE 3310, MAE 3311, TSL 4080. CR: MAE 4326, RED 4942, SCE 3310. Student teaching assignment in an elementary school under the supervision of a certified classroom teacher. Graded S/U. *Fall, Spring.*

EDE 3942H ED-TL&L 3(3,0)
Honors Internship I: PR: MAE 2801, RED 3012, RED 4519, TSL 4080. Student teaching assignment in an elementary school under the supervision of a certified classroom teacher including professional study groups and seminars, teacher work sample methodology and just-in-time coaching. *Odd Fall.*

EDE 4223 ED-TL&L 3(3,0)
Integrated Arts and Movement in the Elementary School: PR: Admission to Elementary Education. Provides the prospective teacher with knowledge, skills, and dispositions to integrate arts and movement into the education of elementary school children. *Fall, Spring.* M&S fee \$10.00

EDE 4943 ED-TL&L 7-12(0,35)
Internship II (Elementary): PR: EDE 3942. Student teaching in an elementary school under the supervision of a certified classroom teacher. Scheduled concurrent seminars. Graded S/U. *Occasional.*

EDE 4945 ED-TL&L 1(1,0)
Internship II Seminar: PR: All required program courses; CR: EDE 4943 Internship II. Culminating seminar emphasizing current classroom management and assessment issues as they relate to teaching in the elementary grades. *Fall, Spring.*

EDF 2005 ED-TL&L 3(3,0)
Introduction to the Teaching Profession: A survey course including an orientation to education careers, ethics, and the historical, philosophical and sociological foundations of education. This course has a field component. *Fall, Spring.*

EDF 2007 ED-TL&L 3(3,0)
Introduction to Substitute Teaching: Social and legal factors related to PK-12 teaching, including school safety, ethics, legal aspects, and roles and responsibilities of substitute teachers. *Fall, Spring.*

EDF 2085 ED-TL&L 3(3,0)
Introduction to Diversity for Educators: An introduction to cultural factors and their impact on education and life changes. Explores stereotyping, prejudice and changing classroom demographics. Includes directed field experience. *Fall, Spring.*

EDF 2130 ED-TL&L 3(3,0)
Child and Adolescent Development for Educators: Critical examination of developmental stages and characteristics of individuals from infancy through adolescence with application to learners in educational settings. *Fall, Spring.*

EDF 2250 ED-TL&L 3(3,0)
Classroom Management for Substitute Teachers: Instructional and classroom management strategies to optimize student learning and maximize the effectiveness of substitute teachers. *Fall, Spring.*

EDF 2510 ED-TL&L 3(3,0)
Education and Nation Building: American Historical Perspectives: An historical analysis of why education remains critical to nation building in the U.S. and elsewhere, including education's impact on current policies and issues. *Occasional.*

EDF 2720 ED-TL&L 3(3,0)
Children in Schools: Legal, Ethical and Safety Concerns: PR: EDF 2005, EDF 2085, EME 2040, or C.I. The role of education in children's lives through the analysis of legal, ethical and safety concerns. *Fall, Spring.*

EDF 2801 ED-TL&L 3(3,0)
Global Perspectives on Education: National systems of education from a global perspective and exposure to the global and international challenges facing educators in the new millenium. *Fall.*

EDF 3120 ED-TL&L 3(3,0)
Observing Child Growth and Development: PR: Admission to the program. Provides a comprehensive introduction to the principles and basic theories of child growth and development from pre-natal development through age eight. *Fall, Odd Spring.*

EDF 3601 ED-TL&L 3(3,0)
Professional Ethics in Education: Pedagogical knowledge, awareness of educational process and the analytical skills necessary for responsible public involvement in educational policy making. *Fall, Spring.*

EDF 4466 ED-E&HS 3(3,0)
Classroom Assessment & Evaluation Techniques: PR: Completion of Internship I or C.I. Classroom measurement skills in designing traditional and alternative assessments, using results for student evaluation and instructor performance, and interpretation of standardized test results. *Fall, Spring.*

EDF 4467 ED-TL&L 3(3,0)
Learning Theory and Assessment: PR: EDF 2005, EDF 2085, EME 2040, or C.I. Application of learning theory and assessment principles to classroom teaching situations. Fifteen hour in-school experience required. *Fall, Spring.*

EDF 4467H ED-TL&L 3(3,0)
Honors Learning Theory and Assessment: PR: EDF 2005, EDF 2085, and EME 2040, or C.I. Application of learning theory and assessment principles to classroom teaching situations using a case study design, teacher work samples, and a theoretical/conceptual debate. Fifteen hour in-school experience required. *Even Fall.*

EDF 4603 ED-TL&L 3(3,0)
Analysis and Application of Ethical, Legal, and Safety Issues in Schools: PR: EDF 2005, EDF 2085, EME 2040 or C.I. Critical analysis of contemporary educational issues, including ethical, safety, legal, cultural, and linguistic considerations which directly impact schooling in a democracy. *Fall, Spring.*

EDF 4603H ED-TL&L 3(3,0)
Honors Analysis and Application of Ethical, Legal and Safety Issues in Schools: PR: Consent of Honors. Critical analysis of contemporary educational issues, including ethical, safety, legal, cultural, and linguistic considerations which directly impact schooling in a democracy with Honors content. *Fall.*

EDF 5607 ED-TL&L 3(3,0)
Language, Culture and Pedagogy: Impact and Implications: PR: C.I. Explores in-depth issues surrounding learning needs of students from linguistically and culturally diverse populations. Research on language, culture and pedagogy will be highlighted. *Occasional.*

EDG 1005C ED-TL&L 2(1,1)
Foundations of Leadership: PR: LEAD Scholars Program. Seminar for LEAD Scholars in the College of Education providing a foundation of leadership, scholarship, and service regarding disciplines in the college. *Fall, Spring.*

EDG 2311 ED-TL&L 3(3,0)
Teaching Strategies for Substitute Teachers: Planning, adapting and implementing effective instructional practices and assessing student performance in K-12 settings with diverse populations. *Fall, Spring.*

EDG 4410 ED-TL&L 3(3,0)
Teaching Strategies and Classroom Management: PR: EDF 2005, EDF 2085, EME 2040, or C.I. Instructional, organizational and classroom management strategies to create effective learning environments. Fifteen hour in-school experience required. *Fall, Spring.*

EDG 4941 ED-TL&L 1-8(0,1-8)
Directed Field Experience: PR: Approval of Professional Laboratory. Field experience in an appropriate educational setting under the direction of a supervising teacher and/or university supervisor. *Occasional.*

EDG 4948 ED-TL&L 3(3,0)
Service Learning: PR: PSY 2012 or C.I. Involvement with not-for-profit agencies and/or schools to gain a new perspective on civic/community engagement. May be repeated for credit. *Fall, Spring.*

EDG 4954 ED-TL&L 3(3,0)
International Education Field Experiences: PR: Junior standing or C.I. A guided field experience for students participating in a study abroad program. Students gain insights into global and local issues through educational and cultural experiences. *Fall, Spring.*

EDG 5356 ED-TL&L 3(3,0)
Instructional Coaching: PR: Graduate standing or C.I. This course will prepare educators to become instructional coaches, developing skills and methods to impact student achievement by influencing teachers' instructional practices. *Occasional.*

EDG 5745 ED-TL&L 3(3,0)
Teaching the Non-English Student: PR: C.I. Bilingual and non-linguistic instruction in curriculum areas in English as a second language. *Occasional.*

EDG 5941 ED-TL&L 2-8(0,11)
Clinical Practice: PR: Admission to STEP II, III or IV. Clinical Internship in an appropriate educational setting under the direction of a university supervisor or peer teacher. *Occasional.*

EDP 2270 ED-TL&L 3(3,0)
Adult Development & Learning: An examination of theory and research on adult learning and development with emphasis on practical applications, instruction, and technology use in educational and workplace settings. *Fall, Spring.*

EDS 5356 ED-TL&L 3(2,1)
Mentoring and Clinical Supervision of Pre-professional Educators: PR: C.I. The practical application of coaching and mentoring practices that satisfy the standards of clinical supervision and assure attainment of the Florida Educator Accomplished Practices. *Fall, Spring.*

EEC 2732 ED-TL&L 3(3,0)
Health, Safety, and Nutrition for Young Children: Health, safety and legal issues in early childhood (0-8) including protection from injury and infection; promotion of healthy development, good nutrition, and appropriate health and fitness habits. *Spring.*

EEC 3008 ED-TL&L 3(3,0)
Early Childhood Children's Literature: PR: Admission into the Early Childhood Development and Education Program (Track 2). A study of literature written for children ages birth through kindergarten, including an introduction to genres, authors and illustrators of children's books. *Spring.*

EEC 3214 ED-TL&L 3(3,0)
Child Development: PR: Admission to the Early Childhood Development and Education Program -Track 2. Provides pre-service early childhood professionals with an overview of theories and research related to early childhood development (Birth-Age 8). *Fall, Spring.*

EEC 3613 ED-TL&L 3(3,0)
Observation and Assessment of Young Children: PR: Admission to the program. Appropriate methods for diagnosing, assessing, and evaluating young children, including children with diverse cultural and ethnic backgrounds. Appropriate interventions, remediations, and enrichment. *Occasional.*

EEC 3700 ED-TL&L 3(3,0)
Social and Emotional Development of Young Children: Provides an in-depth understanding of the social and emotional development of the young child. Examines the implication for curriculum development. *Occasional.*

EEC 4207 ED-TL&L 3(3,0)
Assessment and Evaluation of Young Children: PR: Admission to the Early Childhood Program and EEC 3700. Early childhood education and services for young children and families. Includes early childhood historical, philosophical, and sociological perspectives, learning theories and field-based experiences. *Fall.*

EEC 4211 ED-TL&L 3(3,0)
Science and Math Learning for Young Children: PR: Admission into Early Childhood Development and Education Program (Track 3), EEC 4303, and EEC 4528. Methodologies for teaching and assessing young children in mathematics and science concepts and skills through an integrated developmentally appropriate program. *Fall.*

EEC 4235C ED-TL&L 3(2,1)
Early Childhood Education Seminar: Bridging Theory to Practice: PR: TSL 4240, EEC 4268, EEX 3450 and completion of semester II in the junior year. Corequisites: MAE 4300, RED 4311, SCE 4304. Seminar course which combines coursework, research, and practical experience. *Fall, Spring.*

EEC 4260 ED-TL&L 3(3,0)
Early Childhood Program Evaluation: PR: Admission into the Early Childhood Development and Education Program (Track 3), EEC 4303, and EEC 4528. Formal and informal evaluation theories, methods and tools for implementing comprehensive evaluations of early childhood programs and policies and how they impact the program's stakeholders. *Fall.*

EEC 4268 ED-TL&L 3(3,0)
Curriculum Activities in Early Childhood: PR: Admission to Early Childhood Education Program. An integrated approach to curriculum planning and scheduling including materials, strategies, and environments for young children which emphasize active learning. *Fall, Spring.*

EEC 4303 ED-TL&L 3(3,0)
Planning Creative Activities in Early Childhood Education: PR: Admission into Early Childhood Development and Education program or C.I. Instructional methods for teaching skills to young children in PK-3rd grade. Hands-on creative play activities involve dance, music, theatre, visual arts, science, math, and literature. *Occasional.*

EEC 4314 ED-TL&L 3(3,0)
Effective Practices for Guiding Young Children's Behavior: PR: Admission into Early Childhood Development and Education Program (Track 3), EEC 4303, and EEC 4528. Techniques to guide behavior of young children emphasizing classroom management, routines, and pro-social skills. *Spring.*

EEC 4402 ED-TL&L 3(3,0)
Cultural and Family Systems: Explores the institution of family in its cultural context as a living dynamic system. *Occasional.*

EEC 4414 ED-TL&L 3(3,0)
Parent-Child Relations: PR: EEC 3700; EEC 4661; or C.I. Review of research on child-rearing and parent-child relationships using case studies to explore influences of personality, developmental stages, family structure, ethnic and cultural factors on parenting. *Fall, Spring.*

EEC 4524 ED-TL&L 3(3,0)
Organization and Management in Early Childhood: Provides students with managerial and supervisory skills required to administer a developmentally appropriate early childhood program. *Occasional.*

EEC 4528 ED-TL&L 3(3,0)
Infant/Toddler Care and Education: Provides the knowledge and skills that will enable the student to become a competent worker with very young children and their families. *Occasional.*

EEC 4604 ED-TL&L 3(3,0)
Classroom Management and Guidance of Young Children: PR: Admission into Early Childhood Education Program and EEC 3700. Techniques to guide behavior of young children, emphasizing classroom management and pro-social skills. *Spring.*

EEC 4661 ED-TL&L 3(3,0)
Early Childhood Education Theory and Practice: PR: Admission to the Early Childhood Program. Study of early childhood education and services for young children and families. Includes early childhood historical, philosophical, and sociological perspectives, learning theories and field-based experiences. *Fall, Spring.*

EEC 4744 ED-TL&L 3(3,0)
Child Life: Psychosocial Care of Children in Health Settings: PR: EEC 3700. Course teaches Child Life theory and practice to students wanting to work with children, youth and their families in hospitals and pediatric clinical settings. *Spring.*

EEC 4936 ED-TL&L 2(2,0)
Seminar in Early Childhood: Current trends, issues and advocacy in field of early childhood education. Includes guidance and clarification concerning student teaching. *Occasional.*

UCF Courses and Descriptions

EEC 4940 ED-TL&L 12(0,12)
Practicum: Early Childhood Development: PR: Must have completed all course work. A fieldwork practicum experience linking developmental theory with practice to provide students with a supervised, hands-on experience working with children, parents, families, and/or agencies. Graded S/U. *Fall, Spring.*

EEC 4942 ED-TL&L 9(0,9)
Practicum: Early Childhood Careers: PR: Admission into the Early Childhood Development and Education Program (Track 3), EEC 4414, EEC 4260, EEC 4314, and EEC 4211. A fieldwork practicum experience linking developmental theory with practice to provide students with a supervised, hands-on experience working with children, parents, families, and/or agencies. Graded S/U. *Spring.*

EEC 4943 ED-TL&L 12(0,12)
Student Teaching: Provides opportunities for student teachers to use the knowledge and skills they acquired in a supervised public school setting. Graded S/U. *Occasional.*

EEC 5205 ED-TL&L 3(3,0)
Programs and Trends in Early Childhood Education: PR: Regular Certificate or C.I. Philosophy, content, facilities, instructional materials, and activities appropriate for children ages 3 to 8 years; current research; issues and trends. Concurrent laboratory experiences. *Occasional.*

EEC 5206 ED-TL&L 3(3,0)
Organization of Instruction in Early Childhood Education: PR: Regular certificate or C.I. Organization in instruction relating to language arts, social sciences, mathematics, health and physical education, problems relating to reading readiness and cognition (K-3). Concurrent laboratory experiences. *Spring.*

EEC 5745 ED-TL&L 3(3,0)
Child Life: Psychosocial Care of Children in Health Settings: PR: EEC 3700 or C.I. Course teaches Child Life theory and practice to students wanting to work with children, youth, and their families in hospitals and pediatric health settings. *Odd Spring.*

EEE 3307C ECS-ECE 4(3,3)
Electronics I: PR: EEL 3123C with a grade of "C" (2.0) or better. Electronic devices including p-n junctions, bipolar transistors, field effect transistors and device models. *Fall, Spring.* M&S fee \$15.00

EEE 3342C ECS-ECE 3(2,3)
Digital Systems: PR: MAC 2311C, MAC 2312, PHY 2048C, PHY 2049C all with a "C" (2.0) or better grade. Combinational and sequential logic circuits including registers, arithmetic units, memories, finite state machines, and design with programmable logic devices. *Fall, Spring.* M&S fee \$9.00

EEE 3350 ECS-ECE 3(3,0)
Semiconductor Devices I: PR: EEL 3004C with a grade of "C" (2.0) or better and PHY 3101. Semiconductor device physics, energy band diagrams, electronic devices including p-n junctions, bipolar transistors, field effect transistors and device models. *Fall, Spring.*

EEE 4309C ECS-ECE 4(3,3)
Electronics II: PR: EEE 3307C, EEE 3342C with a grade of "C" (2.0) or better. Ideal Op-Amps and applications. Introduction to Logic Circuits; Bipolar, MOS and CMOS families; Flip-flops and memory cells, comparators and timing circuits; A/D and D/A converters. *Fall, Spring.* M&S fee \$20.00

EEE 4314 ECS-ECE 3(3,0)
Device Electronics for Integrated Circuits: PR: EEE 3350. P.N. Junctions, Bipolar Transistor Analysis, Metal Semiconductor contacts, MOS Systems MOSFET Analysis and Limitations. *Occasional.*

EEE 4346C ECS-ECE 3(2,3)
Hardware Security and Trusted Circuit Design: PR: EEL 3801C with a grade of "C" (2.0) or better. Design, analysis and synthesis of sequential logic circuits and systems. Data path and controller design using a hardware descriptive language. Case studies on hardware security. *Spring.*

EEE 4463 ECS-ECE 3(3,0)
MEMS Devices and Applications: PR: EEE 3350 or C.I. Micro-Electro Mechanical Systems devices, microfabrication, sensors and actuators, bulk and surface micromachining, optical MEMS, instrumentation and applications. *Fall.*

EEE 5265 ECS-ECE 3(3,0)
Biomedical Effects and Applications of Electromagnetic Energy: PR: EEL 3470 or C.I. RF and microwave energy and their interaction with biological materials. Specific biomedical effects such as absorption, thermal therapy, hyperthermia, etc., will be discussed. *Even Spring.*

EEE 5272 ECS-ECE 3(3,0)
Biomedical Sensors: PR: EEL 4750 or EEL 4832 or C.I. Study of engineering concepts behind the various biomedical sensors used to monitor a patient undergoing clinical therapy. *Occasional.*

EEE 5332C ECS-ECE 3(2,1)
Thin Film Technology: PR: EEE 3350 or equivalent. Presents the various thin film deposition techniques for the fabrication of microelectronic, semiconductor, and optical devices. *Occasional.* M&S fee \$70.00

EEE 5352C ECS-ECE 3(2,3)
Semiconductor Material and Device Characterization: PR: EEE 3350 or C.I. Semiconductor material characterization resistivity, mobility, doping carrier lifetime, device properties, threshold voltage, interface charge of MOS devices, optical and surface characterization of films. *Odd Fall.*

EEE 5353 ECS-ECE 3(3,0)
Semiconductor Device Modeling and Simulation: PR: EEE 3307C. Large signal and small signal model development for semiconductor diodes, BJTs, and MOSFETs. Parameter extraction, numerical algorithm, and SPICE simulation are included. *Spring.*

EEE 5356C ECS-ECE 4(3,3)
Fabrication of Solid-State Devices: PR: EEE 3350. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design, and layout. Laboratory includes device processing technology. *Fall, Spring.* M&S fee \$70.00

EEE 5370 ECS-ECE 3(3,0)
Operational Amplifiers: PR: EEE 4309C. Ideal and non-ideal Op-Amps. Linear applications. Active RC and switched-capacitor filters. Non-linear and other functional circuits. Frequency stability and compensation of Op-Amps. *Even Fall.*

EEE 5378 ECS-ECE 3(3,0)
CMOS Analog and Digital Circuit Design: PR: EEE 4309C. Advanced principles and design techniques for CMOS ICs including most recent published results. *Fall.*

EEE 5390C ECS-ECE 3(2,3)
Full-Custom VLSI Design: PR: EEE 3307C and EEE 3342C with a "C" (2.0) or better grade. Provide background in integrated devices, circuits, and digital subsystems needed for design and implementation of silicon logic chips. *Occasional.*

EEE 5513 ECS-ECE 3(3,0)
Digital Signal Processing Applications: PR: EEL 4750. The design and practical consideration for implementing Digital Signal Processing Algorithms including Fast Fourier Transform techniques, and some useful applications. *Spring.*

EEE 5542 ECS-ECE 3(3,0)
Random Processes I: PR: EEL 3552C and STA 3032. Elements of probability theory, random variables, and stochastic processes. *Fall, Spring.*

EEE 5555 ECS-ECE 3(3,0)
Surface Acoustic Wave Devices and Systems: PR: EEL 3552C. Course discusses SAW technology which includes the physical phenomenon, transducer design and synthesis, filter design and performance parameters. Actual devices and communication systems are presented. *Occasional.*

EEE 5557 ECS-ECE 3(3,0)
Introduction to Radar Systems: PR: EEL 3552C. Introduction to Pulse and CW Radar Systems. Chirp Radar Systems. Tracking Radar. Noise in Radar Systems. *Spring.*

EEL 3004C ECS-ECE 3(3,2)
Electrical Networks: PR: MAC 2311C, MAC 2312, MAC 2313, PHY 2048C, PHY 2049C all with a "C" (2.0) or better grade. CR: MAP 2302. Analysis and design of linear circuits, transients, ac analysis, power calculations and three-phase circuits. *Fall, Spring.*

EEL 3004C ECS-ECE 3(3,2)
Honors Electrical Networks: PR: Permission of Honors and MAC 2311C, MAC 2312, MAC 2313, PHY 2048C, PHY 2049C all with a "C" (2.0) or better grade. CR: MAP 2302. Analysis and design of linear circuits, transients, ac analysis, power calculations and three phase; circuits. *Spring.*

EEL 3123C ECS-ECE 4(3,1)
Networks and Systems: PR: EEL 3004C and MAP 2302 both with a grade of "C" (2.0) or better. Network functions, Laplace transforms, frequency domain analysis using Fourier series and transforms, sampling theory and Z-transforms. *Fall, Spring.* M&S fee \$15.00

EEL 3123C ECS-ECE 4(3,1)
Honors Networks and Systems: PR: Consent of Honors and EEL 3004C, MAP 2302 both with grades of "C" (2.0) or better. Network functions, Laplace transforms, frequency domain analysis using Fourier series and transforms, sampling theory and Z-transforms. *Spring.*

EEL 3470 ECS-ECE 3(3,0)
Electromagnetic Fields: PR: EEL 3004C with a grade of "C" (2.0) or better. Electric and magnet fields and electromagnetic waves. *Fall, Spring.*

EEL 3552C ECS-ECE 4(3,3)
Analog and Digital Communication Fundamentals: PR: EEL 3123C with a grade of "C" (2.0) or better. Fourier Transform Theory, fundamentals of AM and FM, Baseband pulse and digital signaling, Bandpass signaling, digital modulation and detection. *Fall, Spring.* M&S fee \$15.00

EEL 3657 ECS-ECE 3(3,0)
Linear Control Systems: PR: EEL 3123C with a grade of "C" (2.0) or better. Control theory, transfer function modeling, Nyquist criteria, root locus, Bode plots, and Design of lead and lag compensation. *Fall, Spring.*

EEL 3801C ECS-ECE 3(3,2)
Computer Organization: PR: EGN 3211 and EEE 3342C both with grades of "C" (2.0) or better. Computer arithmetic, Instruction Set Architecture, performance, data path, control unit, memory hierarchy, I/O interface. *Fall, Spring.*

EEL 4140C ECS-ECE 4(3,3)
Analog Filter Design: PR: EEL 3123C with a grade of "C" (2.0) or better. Passive and active analog filter design. *Fall.* M&S fee \$15.00

EEL 4205 ECS-ECE 3(3,0)
Electric Machinery: PR: EEL 3004C with a grade of "C" (2.0) or better. Fundamentals of DC and AC electric machines. *Fall.*

EEL 4216 ECS-ECE 3(3,0)
Fundamentals of Electric Power Systems: PR: EEL 3004C with a grade of "C" (2.0) or better. Three-phase power representation and analysis, transformers, per unit system, symmetrical components, faults, and transmission lines. *Spring.*

EEL 4436C ECS-ECE 4(3,3)
Microwave Engineering: PR: EEL 3470. Transmission line theory, Smith charts, S-parameters, simple impedance matching circuits, wave guides, resonators, basic microwave measurements. May be repeated for credit. *Fall.* M&S fee \$35.00

EEL 4440 ECS-ECE 3(3,0)
Optical Engineering: PR: EEL 3470 or C.I. Lens systems, aberrations, sources, radiometry, detectors, physical optics, interferometric devices, applications to engineering design problems. *Occasional.*

EEL 4512C ECS-ECE 4(3,3)
Communication Systems: PR: STA 3032, EEL 3552C and EEL 3307C. Information transmission, modulation, and noise; design and comparison systems in the presence of noise. *Occasional.*

EEL 4515C ECS-ECE 4(3,3)
Digital Communication Systems: PR: EEL 3552C. Sampling and quantization, PAM, PWM, PTM, PCM, and Delta Modulation ASK, FSK, PSK, MPSK, introduction to coding. *Fall.* M&S fee \$20.00

EEL 4518 ECS-ECE 3(3,0)
Satellite Communications: PR: EEL 3552C. The principles of satellite communications, including communications satellites, Earth stations, link analysis, FDMA and TDMA. May be repeated for credit. *Fall.*

EEL 4612C ECS-ECE 4(3,3)
Introduction to Modern and Robust Control: PR: EEL 3657. Classical control theory including differential equations and Laplace transform techniques, stability analysis, and classical frequency domain design. Modeling and Position, Speed, Vibration Control Design Laboratories. *Occasional.*

EEL 4635C ECS-ECE 4(3,3)
Computer Control Systems: PR: EEL 3657. Discrete-time systems, the z-transform, and single loop computer control systems. Digital simulation in the analysis and design of processes with embedded computers. No graduate credit for both EEL 5630 and this course. *Occasional.*

EEL 4660 ECS-ECE 3(3,0)
Robotic Systems: PR: EGN 4060C or EEL 4742C or COP 3503C. Team based development of a robotic system incorporating concepts such as sensing, computer vision, machine learning, localization, mapping, manipulation and locomotion. *Spring.*

EEL 4742C ECS-ECE 4(3,3)
Embedded Systems: PR: EEL 3801C with a grade of "C" (2.0) or better. Microcontroller systems, assembly language programming, data representation, memory and device interfacing, timing analysis, parallel and serial communication, timers, interrupts, signal interfacing considerations, and applications. *Fall, Spring.* M&S fee \$15.00

EEL 4750 ECS-ECE 3(3,0)
Digital Signal Processing Fundamentals: PR: EEL 3123C with a grade of "C" (2.0) or better. Study of discrete-time signals and systems, Z-transform, DFT introduction to digital filter design. *Fall, Spring.*

EEL 4768 ECS-ECE 3(3,0)
Computer Architecture: PR: EEL 3801C or CDA 3103C with a grade of "C" (2.0) or better. Computer systems performance and evaluation, processor datapath and control, microprogrammed architectures, instruction and arithmetic pipelines, cache and virtual memory, and RISC vs. CISC. *Fall, Spring.*

EEL 4781 ECS-ECE 3(3,0)
Computer Communication Networks: PR: EEL 3801C with a grade of "C" (2.0) or better and STA 3032. Network models. Media access protocols. Data link control. Routing and flow control. Internetworking. Current architectures and protocols: OSI, ethernet, token, ring, FDDI, HSLC, X.25, etc. *Fall, Spring.*

EEL 4783 ECS-ECE 3(3,0)
Hardware Description Languages in Digital Systems Design: PR: EEL 3342C with a grade of "C" (2.0) or better. Hardware description languages, simulation and synthesis of RTL circuits and systems, design examples and projects. *Occasional.*

EEL 4798 ECS-EECS 3(3,0)
Massive Storage and Big Data: PR: EEL 3801C or CDA 3103C. Fundamentals in big data architecture and its enabling file storage systems Infrastructure such as MapReduce and storage, with a focus on system architecture, file storage, programming models, application development and performance evaluation. *Spring.*

EEL 4817H ECS-ECE 3(3,0)
Honors Current Topics in Machine Learning II: PR: Consent of Honors and EEL 4818H. Research topics in Machine Learning. Students will be assigned a research project and a faculty mentor who will supervise this project. *Spring.*

EEL 4818H ECS-ECE 3(3,0)
Honors Current Topics in Machine Learning I: PR: Consent of Honors and EEL 3801 with a grade of "C" (2.0) or better or COP 3223C with a grade of "C" (2.0) or better or STA 3032 or C.I. Machine Learning and Applications. ART Neural Networks, Genetic Algorithms, Decision Trees, Evolutionary Hardware, Evolutionary Neural Networks, and Reinforcement Learning. *Occasional.*

EEL 4832 ECS-ECE 3(3,0)
Engineering Applications of Computer Methods: PR: EEL 3123C and EGN 3211 both with a grade of "C" (2.0) or better. Engineering applications of numerical methods, including solution of differential equations, simulation, optimization, and multidimensional root-finding, integration and series approximations. *Fall, Spring.*

EEL 4851C ECS-ECE 4(3,3)
Engineering Data Structures: PR: EEL 3801C with a grade of "C" (2.0) or better. Design of data structures and algorithms, with emphasis on performance analysis, memory organization, stacks, queues, linked lists, trees, graphs, searches, and sorts. Introduction to object-oriented structures. *Occasional.*

EEL 4872 ECS-ECE 3(3,0)
Engineering Applications of Intelligent Systems: PR: EEL 4851C or COP 3503C or equivalent or C.I. Knowledge and intelligence, predicate logic and automated reasoning, heuristic search, knowledge representation, automated planning, introduction to machine learning, knowledge-based systems and philosophy of AI. *Occasional.*

EEL 4882 ECS-ECE 3(3,0)
Engineering Systems Software: PR: EEL 3801C. Introduction to operating systems concepts and facilities for engineering applications, including multiprogramming, resource allocation and management, systems utilities, and operating system implementation. *Fall, Spring.*

EEL 4884C ECS-ECE 4(3,3)
Engineering Software Design: PR: EEL 4851C. Software systems development life cycle, function and object-oriented methodologies, CASE; Analysis, design, and development of a large software project. *Fall, Spring.*

EEL 4890 ECS-ECE 3(3,0)
Continuous System Simulation I: PR: MAP 2302. Numerical integration techniques and discrete time system models for approximating the dynamics of continuous systems. *Occasional.*

EEL 4914 ECS-ECE 3(3,0)
Senior Design I: PR: EEL 3307C, EEL 4742C, and consent of School of EECS. Applications of engineering design to realistic and meaningful problems. Constraints such as economic factors, safety, reliability, aesthetics, ethics, social impact and engineering organizations are considered. *Fall, Spring.*

EEL 4915L ECS-ECE 3(0,3)
Senior Design II: PR: EEL 4914. Execution of electrical and computer engineering project including complete project design review, construction, testing and demonstration. Emphasis on design, prototyping, cost, functionality, presentation, team effort and final report. *Fall, Spring.* M&S fee \$15.00

EEL 5173 ECS-ECE 3(3,0)
Linear Systems Theory: PR: EEL 3657. Models and properties of linear systems, transformation, controllability and observability, control and observer designs, MFD, and realization theory. *Spring.*

EEL 5185 ECS-ECE 3(3,0)
System Identification: PR: EEL 3657 or C.I. Dynamic systems, models of time-invariant linear, time-varying and nonlinear systems, nonparametric frequency- and time-domain identification methods, kernel expansion techniques, parameter estimation methods, experiment design, and applications. *Spring.*

EEL 5245C ECS-ECE 3(2,1)
Power Electronics: PR: EEL 4309C. Principles of power electronics, power semiconductor devices, inverter topologies, switch-mode and resonant dc-to-dc converters, cyclo-converters, applications. *Fall.*

EEL 5268 ECS-EECS 3(3,0)
Communications and Networking for Smart Grid: PR: EEL 4515C. Introduction to smart grid communication infrastructure, communication technologies in smart grid, communication networking in smart grid, communication for vehicle-to-grid systems, secure communication and networking. *Occasional.*

EEL 5291 ECS-ECE 3(3,0)
Distributed Control and Optimization for Smart Grid: PR: EEL 3657 and EEL 4216 or C.I. Electric power systems, transmission and distribution networks, voltage stability and VAR control, dispatch of distributed generation, optimization, frequency control, electricity markets and incentive controls. *Odd Fall.*

EEL 5432 ECS-ECE 3(3,0)
Satellite Remote Sensing: PR: EEL 3470 or PHY 4324. Fundamentals of satellite remote sensing, orbits and geometry, radiative transfer theory, microwave and infrared sensing techniques, ocean, ice and atmosphere geophysical measurements. *Occasional.*

EEL 5437C ECS-ECE 4(3,3)
Microwave Engineering: PR: EEL 3470 or C.I. Transmission line theory, Smith charts, S-parameters, simple impedance matching circuits, wave guides, resonators, basic microwave measurements. *Fall.* M&S fee \$40.00

EEL 5439C ECS-ECE 4(3,3)
RF and Microwave Communications: PR: EEL 4436C or equivalent. RF and microwave active circuits microstrip amplifier, oscillator, and mixer design and fabrication. Receiver design, noise, familiarization with network and spectrum analyzers. *Spring.* M&S fee \$40.00

EEL 5462C ECS-ECE 3(3,1)
Antenna Analysis and Design: PR: EEL 3470 or equivalent. Fundamentals of antennas; dipoles, loops, arrays, apertures, and horns. Analysis and design of various antennas. *Odd Fall.*

EEL 5625 ECS-MECH/AERO 3(3,0)
Applied Control Systems: PR: C.I. Designed to develop basic understanding of advanced control methods for nonlinear systems described by ordinary and partial differential equations and to expose recent results and ongoing research issues in the area of MEMS. *Occasional.*

EEL 5630 ECS-ECE 3(3,0)
Digital Control Systems: PR: EEL 3657. Real-time digital control system analysis and design, Z-transforms, sampling and reconstruction, time and frequency response, stability analysis, digital controller design. *Fall.*

EEL 5669 ECS-ECE 3(3,0)
Introduction to Robotics and Autonomous Vehicles: PR: EEL 5173 or C.I. Forward and inverse kinematics, velocity kinematics, dynamics, constrained motions, path and trajectory planning, position and trajectory control, single and multivariable control, introduction to force/impedance control, introduction to consensus-based control. *Fall.*

EEL 5690 ECS-ECE 3(3,0)
Introduction to Medical Robotics and Tele-Operation: PR: EEL 3657 or Medical students in their second year or later. Medical robots for minimally invasive surgery, kinematics, constrained workspace and dexterity, haptics, tele-operation and network based control, basics of laparoscopic surgery. *Occasional.*

EEL 5704 ECS-ECE 3(3,0)
Computer Aided Logical Design: PR: EEL 4742C. Design, analysis and synthesis of sequential logic circuits and systems. Data path and controller design using a hardware description language. *Occasional.*

UCF Courses and Descriptions

EEL 5706 ECS-EECS 3(3,0)
Resilient Computer System Design: PR: EEL 4768 or CDA 5106 or EEL 5708, or C.I. Advanced concepts in hardware/software fault tolerance: fault models, coding in computer systems, module and system level fault detection mechanisms, such as TMR, rollback, and recovery. *Occasional.*

EEL 5722C ECS-ECE 3(3,3)
Field-Programmable Gate Array (FPGA) Design: PR: EEL 3342C with a "C" (2.0) or better grade. FPGA architectures, design flow, technology mapping, placement, routing, reconfigurable computing applications, and evolvable hardware. *Even Fall.*

EEL 5771C ECS-ECE 3(2,3)
Engineering Applications of Computer Graphics: PR: EGN 3420 or C.I. Computer graphics in engineering applications. Laboratory assignments. *Occasional.*

EEL 5780 ECS-ECE 3(3,0)
Wireless Networks: PR: EEL 4781 or C.I. The wireless networking topics include: cellular networks, multiple access protocols, channel assignment and resource allocation, mobility and location management, handoffs, routing, authentication, call admission control and QoS provisioning, network layer issues, wireless data networking (WAP, GSM, GPRS, CDMA, WCDMA.). *Even Spring.*

EEL 5796 ECS-EECS 3(3,0)
Big Data Computer Architecture and Systems: PR: EEL 4768 or CGS 3763 or C.I. Computer hardware architecture and operating systems design, implementation and administrative techniques for big data computing platforms which run applications to analyze datasets of massive size and dimensionality. *Even Fall, Odd Spring.*

EEL 5820 ECS-ECE 3(3,0)
Image Processing: PR: MAP 2302, EEL 4750 or C.I. Two-dimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques. *Odd Spring.*

EEL 5825 ECS-ECE 3(3,0)
Pattern Recognition: PR: EEL 4750 or C.I. Preliminaries of pattern recognition, Bayesian Decision Theory, linear discriminant functions, Neural Network approaches, decision tree classifiers, unsupervised learning and clustering, non-parametric techniques, and other topics reflecting the state-of-the art. *Occasional.*

EEL 5860 ECS-ECE 3(3,0)
Software Requirements Engineering: PR: Graduate standing or C.I. Excellent oral and written communication skills. Excellent problem solving skills. In-depth study of software requirements engineering within a process centered framework. Methods for requirements elicitation, analysis, description, and validation. Formal and informal specification. *Occasional.*

EEL 5874 ECS-ECE 3(3,0)
Expert Systems and Knowledge Engineering: PR: EEL 4872 or CAP 4630 C.I. Introduction to expert systems in engineering. Expert systems tools and interviewing techniques. This course is hands-on and project oriented. *Spring.*

EEL 5881 ECS-ECE 3(3,0)
Software Engineering I: PR: COP 4331C or C.I. Design, implementation, and testing of computer software for Engineering applications. *Fall, Spring.*

EEL 5936 ECS-ECE 0(1,0)
Current Topics in EECS: PR: Open to all ECE graduate students. Lectures presented by ECE and national lectures will provide our students a broad view of the state of the art EE and CE fields. Graded S/U. *Occasional.*

EES 4111C ECS-CECE 4(3,3)
Biological Process Control: PR: ENV 3001 with a grade of "C" (2.0) or better. Engineering design, measurements and analysis of biological systems in environmental engineering for water management, bio-energy products, wastewater treatment, and others. *Spring.* M&S fee \$70.00

EES 4202C ECS-CECE 4(3,3)
Chemical Process Control: PR: CHM 2046 and ENV 3001 both with a grade of "C" (2.0) or better. Engineering design, measurements, and analysis of chemical systems in environmental engineering to control treatment processes such as softening, coagulation, disinfection, scrubbing, neutralization, and others. *Fall.* M&S fee \$60.00

EES 5318 ECS-CECE 3(3,0)
Industrial Ecology: PR: ENV 3001, ENV 4341. Discussion of similarities between ecological systems and industrial systems with the emphasis on material cycles, energy flow, pollution prevention, organizational structures, and environmental management. *Occasional.*

EEX 2010 ED-CFCS 3(3,0)
Introduction to Special Education: Orientation to the education of children and adolescents with special needs in the schools. The course includes characteristics, trends, mainstreaming, and other issues. *Fall, Spring.*

EEX 2090 ED-CFCS 3(3,0)
Exceptional Populations in School and Society: Characteristics of exceptionalities in school and society to increase student awareness and comfort levels with individuals with exceptionalities. *Fall, Even Spring.*

EEX 2758 ED-CFCS 2(2,0)
Enhancing Family Involvement in Education: Development of partnerships with families of students with disabilities and their communities to address the educational needs of all students. *Fall, Spring.*

EEX 3221 ED-CFCS 3(3,0)
Assessment of Exceptional Students: Formal and informal assessment techniques for screening, placement, program planning, program evaluation, and monitoring of progress of exceptional students. *Fall, Spring.*

EEX 3241 ED-CFCS 3(3,0)
Methods for Academic Skills for Exceptional Students: PR: Admission to the CED or Admission to the ESE Minor. Teaching strategies, instructional materials, and monitoring techniques for children and adolescents with special needs. Must be taken before Internship I. *Fall, Spring.*

EEX 3243 ED-CFCS 3(3,1)
Techniques for Exceptional Adolescents-Adults: CR: EEX 3241. A study of strategies, basic and functional content, career and vocational educational, and transition planning for adolescents and adults with special needs. *Spring.*

EEX 3450 ED-CFCS 3(3,0)
Young Children With Special Needs: Provides an overview of the unique field of early childhood special education, its mission, and approaches to helping young children and their families. *Spring.*

EEX 3942 ED-CFCS 3(3,0)
Internship I Exceptional Education: PR: EDG 4410, RED 3012, EEX 2010, EEX 3241, MAE 2801. Student teaching in exceptional education in both elementary and secondary school settings under the supervision of a certified classroom teacher. Graded S/U. *Fall, Spring.*

EEX 4054 ED-CFCS 2(2,0)
Application and Theories for Students with Special Needs: PR: EEX 2010. Theories and historical foundations for students with specific learning, physical, cognitive, and emotional disabilities. *Spring.*

EEX 4066 ED-CFCS 3(3,0)
Curriculum, Theory and Instructional Strategies for Students with Special Needs: PR: EEX 3241, RED 3012, LAE 4314. Theoretical concepts, curriculum development and specialized strategies for students with special needs. *Occasional.*

EEX 4070 ED-CFCS 3(3,0)
Teaching Exceptional Students: PR: EDG 4410. Development and practice of effective teaching and management strategies for elementary regular classroom teachers to use in working with mild disabilities. *Fall, Spring.*

EEX 4204 ED-CFCS 1-3(1-3,0)
Instructional Strategies for Effective Inclusive Settings: PR: Overall minimum 2.5 GPA or C.I. A comprehensive background on Exceptional Education history, reform, and educational strategies to teach students with disabilities in inclusive settings. *Spring.*

EEX 4242 ED-CFCS 3(3,0)
Teaching Exceptional Students in Secondary Settings: PR: EDF 2085. Instructional and management strategies for secondary general education teachers to use in working with students with disabilities. *Fall, Spring.*

EEX 4601 ED-CFCS 3(3,0)
Introduction to Behavior Management: Study of management techniques based on applied behavioral analysis principles for modifying inappropriate behaviors and maintaining appropriate behaviors of exceptional students. *Fall, Spring.*

EEX 4751 ED-CFCS 3(3,0)
Parent Involvement in Education: This course prepares students to successfully interact with and involve parents in their child's education. *Occasional.*

EEX 4757 ED-CFCS 3(3,0)
Respite Care: PR: Junior Standing or C.I. General knowledge and best practice in the field of temporary care: the nature and needs of care givers and care recipients, including special populations. *Occasional.*

EEX 4763 ED-CFCS 3(3,0)
Technology for Classroom Teachers of Students with Special Needs: PR: EEX 3241, RED 3012, LAE 4314, MAE 2801. Enhancing teacher preparation through the use of technology for students with special needs. *Fall, Spring.*

EEX 4943 ED-CFCS 12(0,35)
Internship II: PR: Completion of specialization. Satisfactory completion of the portfolio. Full day student teaching under a certified special education teacher in an elementary or secondary school. Graded S/U. May be repeated for credit. *Occasional.*

EEX 5051 ED-CFCS 3(3,0)
Exceptional Children in the Schools: PR: Senior standing or C.I. Characteristics, definitions, educational problems, and appropriate educational programs for the exceptional children in schools. *Fall.*

EEX 5702 ED-CFCS 3(3,0)
Planning Curriculum for Pre-Kindergarten Children with Disabilities: Focus on curriculum planning; developmentally appropriate practices and implementation of individualized instruction for pre-kindergarten children with disabilities. *Spring.*

EEX 5750 ED-CFCS 3(3,0)
Communication with Parents and Agencies: Presentation of methods of interacting with community agencies, supporting and collaborating with families, developing a case management system, and facilitating program transition. *Occasional.*

EGM 3601 ECS-MECH/AERO 3(3,0)
Solid Mechanics: PR: "C" (2.0) or better in the following MAC 2311C, MAC 2312, MAC 2313, PHY 2048C and EGN 3310; PR: or CR: MAP 2302. Concepts of stress, strain, deflection; axial force, torsion, bending, combined stress, Mohr's circle, failure theories, design concepts, application to machines and vehicles. *Fall, Spring.*

EGN 1007C ECS-ECS 1(1,2)
Engineering Concepts and Methods: PR: EGS 1006C and New student status or C.I. Introduction to the use of computer and applications software in solving engineering problems. Introduction to the concepts of engineering design through the use of teams: engineering communication; engineering professionalism and ethics. *Spring.*

EGN 2920C ECS-IEMS 2(1,1)
LEAD Colloquium: PR: C.I., LEAD Scholars Program, Must have completed at least two of the following with a grade of B or better, IDS 1040C, GEB 1091C, EGS 1036C, EDG 1005C or HSC 1931C. Provides experiential leadership experience in an appropriate leadership setting under the direction of a university supervisor with the LEAD Scholars Program. May be repeated for credit. *Occasional.*

EGN 3211 ECS-ECE 3(3,0)
Engineering Analysis and Computation: PR: MAC 2312 with a "C" (2.0) or better. Engineering analysis and computation with structured constructs. Subscripted variables, functions, input/output. Applications in embedded systems and examples in numerical methods. *Fall, Spring.*

EGN 3310 ECS-CECE 3(3,0)
Engineering Analysis-Statics: PR: MAC 2311C, PHY 2048C both with a grade of "C" (2.0) or better; CR: MAC 2312. Fundamental concepts of mechanics, including resultants of force systems, free-body diagrams, equilibrium of rigid bodies, and analyses of structures. *Fall, Spring.*

EGN 3310H ECS-CECE 3(3,0)
Honors Engineering Analysis-Statics: PR: Permission of Honors and MAC 2311C, PHY 2048C both with grades of "C" (2.0) or better; CR: MAC 2312. Advanced treatment of material and additional topics, including project work. With Honors content. *Fall, Spring.*

EGN 3321 ECS-MECH/AERO 3(3,0)
Engineering Analysis-Dynamics: PR: "C" (2.0) or better in EGN 3310 and MAC 2313; PR: or CR: MAP 2302. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy, impulse and momentum, introduction to kinematics of mechanisms; introduction to 3D rigid body dynamics; central force. *Fall, Spring.*

EGN 3321H ECS-MECH/AERO 3(3,0)
Honors Engineering Analysis - Dynamics: PR: Permission of Honors and EGN 3310, CR: MAC 2313. Kinematics and kinetics of particles and rigid bodies; mass and acceleration; work and energy; impulse and momentum. *Occasional.*

EGN 3331C ECS-CECE 3(3,2)
Mechanics of Materials: PR: EGN 3310 with a grade of "C" or better; CR: MAP 2302. Concepts of stress, strain, strength, deflection of axial force members, shafts in torsion, beams in flexure, combined stress, stability of columns, and design of simple elements. *Fall, Spring.*

EGN 3343 ECS-MECH/AERO 3(3,0)
Thermodynamics: CR: EGN 3321 and MAP 2302. Work, heat, and energy transformations. Relation of properties. Laws, concepts, and modes of analysis common to all applications of thermodynamics in engineering. *Fall, Spring.*

EGN 3343H ECS-MECH/AERO 3(3,0)
Honors Thermodynamics: PR: Honors status; CR: EGN 3321 or EGN 3321H or EML 3217, & MAP 2302. Work, heat, and energy transformations. Relation of properties. Laws, concepts, and models of analysis common to all applications of thermodynamics in engineering. Honors content. *Spring.*

EGN 3358 ECS-MECH/AERO 3(3,0)
Thermo-Fluids-Heat Transfer: PR: EGN 3310, MAP 2302. Introduction to first and second laws of thermodynamics, continuum fluid mechanics, and heat transfer for electrical, industrial, and computer engineering majors. *Fall, Spring.*

EGN 3365 ECS-MECH/AERO 3(3,0)
Structure and Properties of Materials: PR: (CHS 1440 or CHM 2045C) and MAC 2312 with grades of "C" (2.0) or better in both. Atomic structure and bonding, crystal structure and imperfections, solidification, phase transformations, phase diagrams, heat treatment, mechanical & electrical properties, materials characterization techniques. *Fall, Spring.*

EGN 3365H ECS-MECH/AERO 3(3,0)
Honors Structure and Properties of Materials: PR: MAC 2312, and (CHS 1440 or CHM 2045C), with grades of "C" (2.0) or better in both; and consent of Honors. Atomic bonding; lattices; phonons; crystal structure; diffraction; defects; diffusion; phase equilibria and diagrams; transformations kinetics; mechanical, thermal, electrical, optical, and magnetic properties. With Honors content. *Spring.*

EGN 3373 ECS-ECE 3(3,0)
Principles of Electrical Engineering: PR: PHY 2049C; CR: MAP 2302. Fundamentals of electrical circuits and analysis; fundamentals of electronics and AC power systems, transformers, electromechanics and rotating machines. *Fall, Spring.*

EGN 3373H ECS-ECE 3(3,0)
Honors Principles of Electrical Engineering: PR: Permission of Honors and PHY 2049C, CR: MAP 2302. Fundamentals of electrical circuits and analysis. Fundamentals of electronics and AC power systems, transformers, electromechanics and rotating machines. *Spring.*

EGN 3420 ECS-ECE 3(3,0)
Engineering Analysis: PR: EGN 3211, and MAC 2312 with a "C" (2.0) or better. Engineering applications of numerical methods including curve fitting, matrix operations, root finding, interpolating, integration and plotting. *Occasional.*

EGN 3613 ECS-IEMS 2(2,0)
Engineering Economic Analysis: PR: MAC 2311C with a grade of "C" (2.0) or better, not open to Industrial Engineering students. Economic evaluation of engineering alternatives and design. Time value of money and economic impact of taxes, risk, depreciation. *Fall, Spring.*

EGN 4060C ECS-ECS 3(2,3)
Introduction to Robotics: PR: COP 3223C or EGN 3211; and EEL 3657 or EEL 4742C or COP 3503C or EGN 3321 or EML 3217. Theory and application of robotics topics including: architecture, path planning, sensing and manipulation. *Fall.*

EGN 4641C ECS-ECS 3(2,2)
Engineering Entrepreneurship: PR: Senior standing, ENT 4183, or C.I. All aspects of a successful engineering entrepreneurship enterprise. Content includes lectures, case studies, and seminars. Active student participation. Course material is augmented through seminars given by engineers, business people, and specialists, based on their own experiences. *Occasional.*

EGN 4931H ECS-ECS 3(3,0)
Honors Engineering Seminar: PR: Permission of Honors and Senior standing and C.I. Introduces a select group of students in engineering or other fields of science to the methodology commonly employed in research. Students will carry out independent research which will prepare them for graduate study. *Occasional.*

EGS 1006C ECS-ECS 1(1,2)
Introduction to the Engineering Profession: PR: New students status or C.I. Overview of academic and professional requirements in various engineering disciplines. *Fall.*

EGS 1036C ECS-IEMS 2(1,1)
Foundations of Leadership: PR: LEAD Scholars Program. Seminar for LEAD Scholars in the College of Engineering & Computer Science providing a foundation of leadership, scholarship, and service regarding disciplines in the college. *Fall, Spring.*

EGS 3030 ECS-ECS 0(2,0)
Leadership in Engineering I: PR: Junior standing in a CECS major. Leadership roles for engineers are presented by prominent professionals in industry and government. Graded S/U. *Fall.*

EGS 3031 ECS-ECS 0(2,0)
Leadership in Engineering II: PR: Junior standing in a CECS major. Leadership roles for engineers are presented by prominent professionals in industry and government. Graded S/U. *Spring.*

EGS 4624 ECS-IEMS 3(3,0)
Engineering Innovation and Leadership: PR: Senior standing. A broad range of topics including corporate organization structures, individual and team leadership, and techniques to enhance innovation and creativity. *Spring.*

EGS 4710 ECS-ECS 3(3,0)
Energy and Society: Investigation of available energy forms; energy resources versus requirements in an increasingly complex technological society; possible solutions and future predictions. *Occasional.*

EGS 4950 ECS-ECS 3(3,0)
Engineering Leadership Capstone: PR: Enrolled in Engineering Leadership Minor or Certificate; CR: approved design course in Engineering or Computer Science. Students will reflect upon and define their professional approach. Students will develop their professional portfolio, concept of operations, and individual strategic plan. *Fall, Spring.*

EIN 2002 ECS-IEMS 1(1,0)
Introduction to Industrial Engineering and Management Systems: PR: MAC 2311C with a grade of a "C" (2.0) or better and sophomore standing. Introduction to the profession of Industrial Engineering and important skills necessary for success. Course includes presentations by local IE professionals. *Fall.*

EIN 3314 ECS-IEMS 3(3,0)
Work Analysis and Design: PR: STA 3032 with a grade of "C" (2.0) or better or C.I. Introduction to lean six sigma analysis as applied to design and improvement of work systems in any organization. Various data collection and analysis methods utilized. *Fall.*

EIN 3351 ECS-IEMS 3(3,0)
Engineering Economic Analysis and Cost Engineering: PR: MAC 2311C with a grade of "C" (2.0) or better. Knowledge and understanding of economic evaluation of engineering and management alternatives, cost analysis, budgeting and estimating techniques. *Spring.*

EIN 3354 ECS-IEMS 3(3,0)
Principles of Cost Engineering: PR: EGN 3613. This course is to provide engineers from all disciplines the background for the cost estimation of engineering systems throughout the product life cycle. *Fall.*

EIN 4191C ECS-IEMS 2(2,2)
Engineering Leadership Seminar I: PR: Junior or better standing in engineering with C.I. Progressive engineering leadership development (intrapersonal to interpersonal to organizational to community) via a combination of experiential and practical experiences in engineering-specific corporate and community settings. *Fall.*

EIN 4192C ECS-IEMS 2(2,2)
Engineering Leadership Seminar II: PR: EIN 4191C. Continuation of EIN 4191C. *Spring.*

EIN 4214 ECS-IEMS 3(3,0)
Safety Engineering and Administration: Analysis of accidents in the industrial operating environment. Application of fault trees, OSHA requirements. Consideration of accident costs and organizational aspects of accident prevention. *Occasional.*

EIN 4243C ECS-IEMS 3(2,2)
Human Engineering: PR: STA 3032 with a grade of "C" (2.0) or better. Man/machine systems; design and conduct of human engineering studies. *Spring.*

EIN 4333 ECS-IEMS 3(3,0)
Production and Distribution Systems: PR: ESI 4312 with a grade of "C" (2.0) or better. Decision policies in manufacturing and logistics systems including forecasting, production planning, operations scheduling, deterministic and stochastic inventory control and project scheduling. *Spring.*

EIN 4364 ECS-IEMS 3(3,0)
Facilities Planning: PR: EIN 3314 with a grade of "C" (2.0) or better; PR: or CR: EIN 3351. Planning and design of production systems including interrelationships between process layouts, material handling, warehousing and site selection. *Spring.*

EIN 4391 ECS-IEMS 3(3,0)
Manufacturing Engineering: PR: Grade of "C" (2.0) or better in any of the following course options CHM 2045C or CHS 1440 or (CHM 2040 and CHM 2041); and Junior Standing. Introduction to manufacturing engineering, with emphasis on current and emerging technologies in metalworking and electronics. *Fall, Spring.*

EIN 4517 ECS-IEMS 3(3,0)
Systems Engineering: PR: STA 3032 with a grade of "C" (2.0) or better. Fundamental principles of systems engineering and their application to the development of industrial complex engineered systems. *Spring.*

UCF Courses and Descriptions

EIN 4545 ECS-IEMS 3(3,0)
Industrial Engineering Applications in The Service Industries: PR: ESI 4312 with a grade of "C" (2.0) or better. Application of industrial engineering principles to improve the quality and productivity of service industries such as restaurants, banks, hotels, health care, etc. *Fall.*

EIN 4891C ECS-IEMS 4(2,4)
Industrial Engineering Senior Design Project: PR: EIN 4364 and ESI 4523 both with grades of "C" (2.0) or better and department consent. Capstone design course; application of IEMS techniques to real-world design applications. *Fall/Spring.*

EIN 5108 ECS-IEMS 3(3,0)
The Environment of Technical Organizations: PR: Graduate status or CI; EGS 4624 recommended. Presentation and investigation into the principles required to transform technologists into managers focusing on engineers, scientists, and other professionals providing services in technically-oriented organizations. *Fall.*

EIN 5117 ECS-IEMS 3(3,0)
Management Information Systems I: PR: C.I. The design and implementation of computer-based Management Information Systems. Consideration is given to the organizational, managerial, and economic aspects of MIS. *Spring.*

EIN 5140 ECS-IEMS 3(3,0)
Project Engineering: PR: Graduate standing or C.I. Role of engineer in project management with emphasis on project life cycle, quantitative and qualitative methods of cost, schedule, and performance control. *Fall/Spring.*

EIN 5248C ECS-IEMS 3(2,2)
Ergonomics: PR: C.I. Applications of anthropometry, functional anatomy, mechanics, and physiology of musculoskeletal system concepts in the engineering design of industrial tools, equipments, and workstations. *Fall.*

EIN 5251 ECS-IEMS 3(3,0)
Usability Engineering: PR: STA 3032 or equivalent. Usability paradigms/principles; cognitive walk-throughs; heuristic, review-based, model-based, empirical and storyboard evaluation; techniques; query techniques; laboratory techniques; and field study approaches. *Spring.*

EIN 5255C ECS-IEMS 3(2,2)
Interactive Simulation: PR: Graduate standing or C.I. Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment. *Fall.*

EIN 5317 ECS-IEMS 3(3,0)
Training System Design: PR: Seniors, post bac or graduate standing or C.I. How human performance deficiencies should be addressed from a systems design point of view. Manpower, personnel, and training considerations will be examined. *Occasional.*

EIN 5346 ECS-IEMS 3(3,0)
Engineering Logistics: PR: ESI 5306 or ESI 4312. Study of the logistics life cycle involving planning, analysis and design, testing, production, distribution, and support. *Occasional.*

EIN 5356 ECS-IEMS 3(3,0)
Cost Engineering: Cost estimation and control of engineering systems throughout the product life cycle. *Occasional.*

EIN 5392C ECS-IEMS 3(2,2)
Manufacturing Systems Engineering: PR: EIN 4391C or C.I. The integration of manufacturing technologies and information processing concepts into a system for controlling the manufacturing enterprise. *Occasional.*

EMA 3000 ECS-MSE 3(3,0)
Engineering Polymeric, Ceramic, and Composite Materials: PR: EGN 3365 or EMA 3706. Structure, properties, processing of engineering polymeric, ceramic, and composite materials. *Occasional.*

EMA 3012C ECS-MSE 3(2,2)
Experimental Techniques in Mechanics and Materials: PR: EGN 3365, EGM 3601. Materials characterization (optical and scanning electron microscopy, x-ray diffraction), heat treatment, mechanical testing (hardness, tensile, impact, etc.). *Fall/Spring.* M&S fee \$45.00

EMA 3124 ECS-MSE 3(3,0)
Design and Selection of Materials: PR: EGM 3601, and EGN 3365 or EMA 3706. Relationship between processing, structure and properties of various engineering materials and their selection in engineering design. *Fall.*

EMA 3691 ECS-MSE 3(3,0)
Nanomaterials Process Engineering: PR: CHS 1440 or CHM 2045C, and PHY 2048 or PHY 2053C and EGN 3365. Nanomaterials, processing, nanomachining, nanocompositions, nanocomposites and computations of devices. *Occasional.*

EMA 3706 ECS-MECH/AERO 3(3,0)
Structure and Properties of Aerospace Materials: PR: (CHS 1440 or CHM 2045C) and MAC 2312 with grades of "C" (2.0) or better in both. Atomic structure, bonding, crystal structures, solidification, phase transformations, heat treatment, mechanical behavior, specific aerospace materials, materials design *Fall/Spring.*

EMA 4102 ECS-MSE 3(3,0)
Thermodynamics and Kinetics of Materials: PR: EGN 3343, EGN 3365 or EMA 3706; and a "C" (2.0) or better in all of the following: CHS 1440 or CHM 2045C, MAC 2311C, MAC 2312, MAC 2313, MAP 2302 and PHY 2048. Application of first, second and third laws of thermodynamics to materials, phase diagrams, statistical thermodynamics, kinetic processes in materials, diffusion, nucleation and growth, and phase transformations. *Fall.*

EMA 4223 ECS-MSE 3(3,0)
Fundamentals of Mechanical Behavior of Materials: PR: EGM 3601, and EGN 3365 or EMA 3706. Elementary treatment of elasticity, plasticity, viscoelasticity, creep, fracture, and fatigue. *Spring.*

EMA 4413 ECS-MECH/AERO 3(3,0)
Fundamentals of Electronic Materials: PR: EGN 3365 or EMA 3706 or PHY 3101. Electronic processes in solids. Electrical, magnetic, and optical properties of solids. Electron energies in solids. Superconducting materials. *Spring.*

EMA 4501C ECS-MSE 3(2,2)
Scanning Electron Microscopy: PR: EGN 3365 or EMA 3706. A review of electron optics, beam/specimen interactions, image formation, x-ray analysis, specimen preparation, microelectronic applications, and crystallography in the SEM. *Occasional.*

EMA 4503 ECS-MSE 3(3,0)
Materials Characterization Techniques: PR: EMA 3012C, and EGN 3365 or EMA 3706. Theory and practice of commonly used techniques for characterization of crystal structure, microstructure and chemistry *Occasional.*

EMA 4506 ECS-MSE 3(3,0)
Emerging Materials: PR: EGN 3365, or EMA 3706. Structure, properties and processing of modern emerging materials *Occasional.*

EMA 5060 ECS-MSE 3(3,0)
Polymer Science and Engineering: PR: EGN 3365. Structure and properties of polymers, preparation and processing of polymers, mechanical properties, use in manufacturing and high tech applications. *Occasional.*

EMA 5104 ECS-MSE 3(3,0)
Intermediate Structure and Properties of Materials: PR: EGN 3365. Fundamentals of dislocation theory, metallurgical thermodynamics and diffusion. Phase transformations, strengthening mechanisms and fracture. Introduction to engineering polymers, ceramics, and composites. *Fall.*

EMA 5106 ECS-MSE 3(3,0)
Metallurgical Thermodynamics: PR: EGN 3365. Laws of thermodynamics, phase equilibria, reactions between condensed and gaseous phases, reaction equilibria in condensed solution and phase diagrams. *Occasional.*

EMA 5108 ECS-MSE 3(3,0)
Surface Science: PR: PHY 2049C and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopies utilizing electron, ion and photon probes. *Occasional.*

EMA 5140 ECS-MSE 3(3,0)
Introduction to Ceramic Materials: PR: EGN 3365. Uses, structure, physical and chemical properties, and processing of ceramic materials. Discussions will include recent developments for high technology applications. *Occasional.*

EMA 5317 ECS-MSE 3(3,0)
Materials Kinetics: PR: C.I. Mass and thermal transport, phase transformations and Arrhenius rate processes. *Occasional.*

EMA 5326 ECS-MSE 3(3,0)
Corrosion Science and Engineering: PR: EGN 3365. Electrochemical principles and applications to detecting and monitoring corrosion processes. Various forms of corrosion, their causes and control. Techniques of corrosion protection. *Occasional.*

EMA 5415 ECS-MSE 3(3,0)
Electronic Principles of Materials Properties: PR: EGN 3365 or C.I. This course will cover electron theory and band structure; electrical, optical, magnetic, and thermal properties of metals, semiconductors and insulators, including device examples. *Fall.*

EMA 5504 ECS-MSE 3(2,2)
Modern Characterization of Materials: PR: EMA 5104 or C.I. Techniques and operation of instrumentation (light, scanning, transmission, and auger microscopy) for the characterization of structure, defects, composition, and surfaces. *Occasional.*

EMA 5505 ECS-MSE 3(2,2)
Scanning Electron Microscopy: PR: EMA 5104 or C.I. A review of electron optics, beam/specimen interactions, image formation, X-ray analysis, specimen preparation, microelectronic applications and crystallography in the SEM. *Occasional.*

EMA 5584 ECS-MSE 3(3,0)
Biomaterials: PR: EGN 3365. Properties of natural biological materials and their relation to microstructure, biocompatibility, specific applications in orthopedic, cardiovascular, visual, neural, and reconstruction implants. *Even Spring.*

EMA 5585 ECS-MSE 3(3,0)
Materials Science of Thin Films: PR: Graduate standing or C.I. Interaction of thin film processing techniques with the structure and properties of the materials deposited. *Odd Fall.*

EMA 5586 ECS-MSE 3(3,0)
Photovoltaic Solar Energy Materials: PR: EGN 3365. Materials properties basic to photovoltaics, structures, homojunction, heterojunction, and surface barrier solar cells, AMDS-1D modeling of c-Si, GaAs bulk and a-Si:H, CIGS, and CdTe thin film solar cells. May be repeated for credit. *Occasional.*

EMA 5587C ECS-MSE 3(2,2)
Characterization and Reliability of PV Cells: PR: EGN 3365. Photovoltaic characterization of solar cells, dark and light I-V, C-V, and quantum efficiency, physics of failure of microelectronic devices, solder bonds, encapsulation, PV module reliability. *Occasional.*

EMA 5588 ECS-MSE 3(3,0)
Biocompatibility of Materials: PR: EGN 3365 or C.I. Biocompatibility and bioactivity; cell-biomaterials interactions; engineering bone and cartilage; soft-tissue replacements; total hip replacements; nanostructured biomaterials, imaging techniques, preservation techniques for biomaterials, MSDS and FDA compatibility data. *Occasional.*

EMA 5610 ECS-MSE 3(3,0)
Laser Materials Processing: PR: EGN 3343 or EMA 5106 or C.I. Laser beam optics; laser-material interactions; laser heating, melting, vaporization. Plasma formation; laser surface treatment, welding, machining; laser material synthesis. Thin film deposition, crystal growth. *Occasional.*

EMA 5705 ECS-MSE 3(3,0)
High Temperature Materials: PR: EMA 5104 or C.I. Desired material properties for high temperature applications, physical metallurgy of such materials, corrosion, hot corrosion and oxidation properties, aero- and land-based gas turbine requirements. *Occasional.*

EME 2040 ED-TL&L 3(3,0)
Introduction to Technology for Educators: Introduction to technology for educators, including classroom management tools, multimedia, communication networks, interactivity, educational software and legal, ethical and social issues. *Fall, Spring.*

EME 2041 ED-E&HS 3(3,0)
Introduction to Applications of Technology in Education: Classroom applications of instructional media including computers. *Occasional.*

EME 4312 ED-E&HS 3(3,0)
Applications of Technology in Education: Classroom applications of instructional media, including computers. Includes experiences with equipment, commercial and teacher-made media, and their uses. *Occasional.*

EME 5050 ED-E&HS 3(3,0)
Fundamentals of Technology for Educators: PR: Post bac or C.I. Designed to provide participants with an introduction to the field of educational technology content with emphasis on using and integrating technology in K-12 to improve the teaching and learning process. *Fall, Spring.*

EME 5053 ED-E&HS 3(3,0)
Electronic Resources for Education: PR: Graduate standing or C.I. Study and application of electronic resources available for education including techniques for locating, evaluating, and integrating them into the classroom. *Fall.*

EME 5811 ED-TL&L 1(1,0)
Teaching and Learning with Technology: Overview of technologies for teaching and for learning. Practical strategies for using technology in the classroom. May be used in the degree program a maximum of 4 times. *Occasional.*

EML 3001C ECS-MECH/AERO 1(1,2)
Machine Shop Practice: PR: EGM 3601, EGN 3365 or EMA 3706. Set up and operation of mill and lathe, cutting tools, holding devices, cutting speeds and feed rates. Measurement devices. Hands-on experience. *Occasional.* M&S fee \$29.00

EML 3034C ECS-MECH/AERO 3(3,1)
Modeling Methods in Mechanical and Aerospace Engineering: PR: "C" (2.0) or better in all of the following prerequisites: MAC 2311C, MAC 2312, MAC 2313, MAP 2302 and PHY 2048C. CR: EGN 3321 and EAS 3933 or EML 3933. Computer aided modeling of mechanical and aerospace systems. Solution methods. Curve fitting. Numerical calculus and solution of differential equations with applications to mechanical and aerospace engineering. *Fall, Spring.*

EML 3101 ECS-MECH/AERO 3(3,0)
Thermodynamics of Mechanical Systems: PR: EGN 3343 and a "C" (2.0) or better in all of the following: MAC 2311C, MAC 2312, MAC 2313, MAP 2302 and PHY 2048. Applied thermodynamics, availability analysis, thermodynamics of reactive and non-reactive mixtures, thermodynamic relations of properties. Thermodynamic design analysis of complete mechanical systems. *Spring.*

EML 3217 ECS-MECH/AERO 3(3,0)
Engineering Mechanics - Dynamics: PR: MAC 2313 with a grade of "C" (2.0) or better, EGN 3310; CR: MAP 2302. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy, impulse and momentum, introduction to kinematics of mechanisms; introduction to 3D rigid body dynamics; central force. *Fall, Spring.*

EML 3262 ECS-MECH/AERO 3(3,0)
Kinematics of Mechanisms: PR: EGN 3321 and a "C" (2.0) or better in all of the following: MAC 2311C, MAC 2312, MAC 2313, MAP 2302 and PHY 2048. Graphical, mathematical, and computer-aided kinematics, analysis, and synthesis of basic mechanisms. *Fall.*

EML 3303C ECS-MECH/AERO 3(2,3)
Mechanical Engineering Measurements: PR: EGN 3343, CR: EGM 3601. Theory, calibration and use of instruments. Measurement techniques, data analysis, report writing. Laboratory topics related to mechanical engineering. *Fall.* M&S fee \$15.00

EML 3500 ECS-MECH/AERO 3(3,0)
Design and Analysis of Machine Components: PR: EGM 3601. Application of the principles of mechanics of materials to the design of mechanical components. *Fall, Spring.*

EML 3701 ECS-MECH/AERO 3(3,0)
Fluid Mechanics I: PR: "C" (2.0) or better in all of the following: MAC 2311C, MAC 2312, MAC 2313, MAP 2302, PHY 2048C, EGN 3321 and EGN 3343. Principles of continuum fluid mechanics. Integral and differential forms of governing equations, fluid statics, dimensional analysis, measurements, internal flows. *Fall, Spring.*

EML 3933 ECS-MECH/AERO 0(0,0)
Mechanical Career and Academic Faculty Advising I: PR: MAP 2302. Mandatory meeting with students and their faculty advisor for career/academic advising. Graded S/U. *Fall, Spring.*

EML 4024C ECS-MECH/AERO 3(2,2)
Engineering Design Practice: PR: EML 3034C and EML 3500 or EAS 4200. Basic CAD/CAM solid modeling techniques in a project oriented environment. Students will construct part models, drawings, and assemblies. Use of in-house software. *Fall, Spring.*

EML 4142 ECS-MECH/AERO 3(3,0)
Heat Transfer: PR: EML 3701 and EML 3034C. Conduction, radiation, and convection heat transfer. Basic energy balances emphasized. Steady state and transient problems, analysis and design of simple heat exchangers. *Fall, Spring.*

EML 4143 ECS-MECH/AERO 3(3,0)
Heat Transfer II: PR: EML 4142. Advanced topics in heat transfer, multi-dimensional conduction, transient conduction, convection heat transfer, participating medium, boiling and condensation. *Fall.*

EML 4225 ECS-MECH/AERO 3(3,0)
Introduction to Vibrations and Controls: PR: EML 3217, EGM 3601, EML 3034C, EGN 3373. Undamped and damped vibration analysis of mechanical systems with single and two degrees of freedom; forced vibration; concepts of feedback controls; classical proportional, derivative and integral (PID) feedback controls and root locus. *Fall, Spring.*

EML 4260 ECS-MECH/AERO 3(3,0)
Dynamics of Machinery: PR: EML 3262 or EML 3217, EML 4220 or EML 4225. Critical speeds and response of flexible rotor systems, whirl, gyroscopic effects; balancing of rotating and reciprocating masses; cam dynamics. *Occasional.*

EML 4264 ECS-MECH/AERO 3(3,0)
Vehicle Dynamics: PR: EML 3262 or EML 3217, EML 4220 or EML 4225. Basic mechanics governing vehicle dynamics, performance and handling; acceleration, braking, ride, cornering, suspension, steering, rollover. *Occasional.*

EML 4301C ECS-MECH/AERO 3(2,3)
Mechanical Systems Lab: PR: EML 3303C, EGM 3601; CR: EML 4225. Teaching laboratory in solid mechanics, dynamic vibrations and control-feedback testing and theory; designing and conducting experiments; analyzing and interpreting data. *Spring.*

EML 4306C ECS-MECH/AERO 3(2,3)
Energy Systems Lab: PR: EML 3303C; CR: EML 4142. Design of experiments in Thermo-Fluid Systems with emphasis on project team activity. *Spring.*

EML 4312C ECS-MECH/AERO 3(2,3)
Feedback Control: PR: EGN 3321, MAP 2302, EGN 3373 and EML 4220 or EAS 4210C. Mathematical modeling of dynamic systems: transient and steady state response; Root Locus and z-transform methods; discrete systems analysis; controller design. *Fall.*

EML 4313 ECS-MECH/AERO 3(3,0)
Intermediate System Dynamics and Controls: PR: EML 3217, MAP 2302, EGN 3373 and EML 4225. Free and forced vibration analysis of mechanical systems with multi degrees of freedom; normal modes and modal analysis; systems concepts, stability criteria, role of uncertainty in feedback and frequency domain control design. *Fall.*

EML 4411 ECS-MECH/AERO 3(3,0)
Mechanical Power Systems: CR: EML 3101. Analysis and design of large power generating systems and components, with emphasis on steam plants utilizing both chemical and nuclear fuels. *Occasional.*

EML 4454 ECS-MECH/AERO 3(3,0)
Turbines for Sustainable Power: PR: EGM 3601, EGN 3365 or EMA 3706, EML 3701 or EAS 3101; CR: EML 4142. Multidisciplinary aspects of turbine design for sustainable power generation including aerodynamics to combustion and emissions to reliability; covers multiple applications of conventional and green technologies. *Fall.*

EML 4501C ECS-MECH/AERO 3(1,6)
Engineering Design I: PR: EGN 3373, EML 3303C, EML 3701, EML 4142, EML 4225 and department consent; CR: EML 4931. Application of the design process in the team solution of a state-of-the-art problem. Aerospace, mechanical, thermo-fluid, or material problems are considered. *Fall, Spring.*

EML 4502C ECS-MECH/AERO 3(1,6)
Engineering Design II: PR: EML 4501C, EML 4931. Continuation of the design process in the team building and testing of a prototype. A test plan and a test report are completed. *Fall, Spring.* M&S fee \$60.00

EML 4504 ECS-MECH/AERO 3(3,0)
Design & Analysis of Machine Components II: PR: EML 3500. Application of the principles of component analysis to the design of mechanisms. *Spring.*

EML 4535C ECS-MECH/AERO 3(2,3)
CAD/CAM: PR: EGN 3343, EML 3034C, and EGM 3601; CR: EAS 4200 or EML 3500. CAD/CAM/FEM computational technology. Basic concepts. Concurrent engineering approach to mechanical, thermal, and aerospace systems design and analysis. Use of in-house software. *Fall, Spring.*

EML 4600 ECS-MECH/AERO 3(3,0)
HVAC Systems Engineering: PR: EGN 3343. Heating, ventilation, air-conditioning, and refrigeration principles and systems design. Psychrometrics, heating and cooling loads, equipment and components, and distribution systems. *Fall.*

EML 4602 ECS-MECH/AERO 3(3,0)
Applied HVAC Engineering: PR: EGN 3343; CR: EML 4142. Applications of HVAC systems design with the objective of optimizing energy efficiency, humidity control, ventilation, and indoor air quality. Dehumidification performance of the various HVAC system types and their interactions with the building. *Spring.*

EML 4703 ECS-MECH/AERO 3(3,0)
Fluid Mechanics II: PR: EML 3701. Continuation of Fluid Mechanics I. External flows, fluid machinery, compressible flows, design projects. *Fall.*

EML 4804C ECS-MECH/AERO 3(2,3)
Digital Control in Mechatronics: PR: EML 3303C; and (EML 4220 and EML 4312C) or (EML 4225 and EML 4313). Discrete microprocessor control of mechatronics dynamic systems using state-space representation, digital controllers, design for mechatronic applications. *Spring.* M&S fee \$15.00

EML 4931 ECS-MECH/AERO 0(0,0)
Mechanical Career and Academic Faculty Advising II: PR: EML 3933 and department consent. Mandatory meeting with students and their faculty advisor for career/academic advising. Graded S/U. *Fall, Spring.*

EML 5026C ECS-MECH/AERO 3(2,2)
Advanced Engineering Design Practice: PR: EGM 3601; CR: (EML 3500 or EAS 4200) and (EML 4220 or EAS 4210). Designed to familiarize students with the basic CAD/CAM solid modeling techniques in a project oriented environment. Construct part models, drawings, and assemblies. Use of in-house software. *Occasional.*

UCF Courses and Descriptions

EML 5060 ECS-MECH/AERO 3(3,0)
Mathematical Methods in Mechanical and Aerospace Engineering: PR: MAP 2302. Vector field theory, generalized coordinates, complex variables, contour integration and Laplace and Fourier transforms and inversions, variable coefficient ODEs and solution of PDEs for governing equations of heat transfer, ideal fluid flow, and mechanics. *Fall*.

EML 5066 ECS-MECH/AERO 3(3,0)
Computational Methods in Mechanical and Aerospace Engineering: PR: EML 3034C. Error Norms, interpolation and extrapolation, quadratures and adaptive quadratures, solutions of linear and nonlinear systems of equations, functional approximation, solution of ODE's and MWR. *Occasional*.

EML 5090 ECS-MECH/AERO 0(0,0)
Mechanical and Aerospace Seminar: PR: Graduate standing or C.I. The course is intended to help MAE graduate students practice public speaking, learn skills of scientific communication, expand their width of knowledge, and promote collaborations. May be repeated. *Fall, Spring*.

EML 5105 ECS-MECH/AERO 3(3,0)
Gas Kinetics and Statistical Thermodynamics: PR: EAS 4134 or EML 4703. Molecular and statistical viewpoint of gases and thermodynamics; Boltzmann collision integral, partition functions, non-equilibrium flows. Applications in thermo-fluid systems. *Occasional*.

EML 5152 ECS-MECH/AERO 3(3,0)
Intermediate Heat Transfer: PR: EML 4142, EML 5060. An intermediate-level course dealing with heat and mass diffusion, boundary layer problems, and radiation from real bodies. Emphasis on combined modes, numerical methods. *Occasional*.

EML 5228C ECS-MECH/AERO 3(3,0)
Modal Analysis: PR: EML 3303C, EML 4220, and EML 5060. Theoretical basis. Measurement techniques, excitation, transducers, data acquisition. Detailed data analysis, modal parameter extraction, curve-fitting procedures. Modeling. *Occasional*.

EML 5237 ECS-MECH/AERO 3(3,0)
Intermediate Mechanics of Materials: PR: EML 3500 or EAS 4200. Elements of elasticity. Failure theories. Bending and torsion. Thin plates. Energy principles. Thick-walled cylinders. Applications to design. *Fall*.

EML 5271 ECS-MECH/AERO 3(3,0)
Intermediate Dynamics: PR: EGN 3321 or EML 3217. Dynamics of particles, rigid bodies, and distributed mass systems. Topics include: Hamilton's principle, Lagrange's equations, Numerical methods, and Mechanisms. *Occasional*.

EML 5290 ECS-MECH/AERO 3(3,0)
Introduction to MEMS and Micromachining: PR: Graduate standing or C.I. Introduction of Micro-Electro-Mechanical-Systems (MEMS) and micromachining (microfabrication) methods. Etching and etching mask. Basics of silicon micromachining processing. Fundamentals of bulk micromachining. Thin film formation and surface micromachining. Microplating and LIGA process. Nonlithographic micromachining process including laser. May be repeated for credit. *Odd Fall*.

EML 5291 ECS-MECH/AERO 3(3,0)
MEMS Materials: PR: EML 5060, EML 6211, or C.I. Introduction of materials that are frequently used for MEMS applications such as silicon, metal, ceramics and polymers. The course will focus on fundamental principles involved in structures and properties of the materials, and their applications in MEMS. *Even Spring*.

EML 5292 ECS-MECH/AERO 3(3,0)
Fundamental Phenomenon and Scaling laws in Miniature Engineering Systems: PR: EML 5060, EML 6211, or C.I. Introduction to meso-, micro-, and nano-scales, and related terminology, constitutive relationships at these scales and how these relationships affect the behavior and performance of systems. Effect of miniaturization on a few common engineering systems. *Odd Fall*.

EML 5311 ECS-MECH/AERO 3(3,0)
System Control: PR: EML 4312C; CR: EML 5060. Modern control theory for linear and non-linear systems; controllability and observability. Linear state feedback and state estimators, compensator design. *Occasional*.

EML 5402 ECS-MECH/AERO 3(3,0)
Turbomachinery: PR: EML 3101, EML 4703 or EAS 4134. Application of the principles of fluid mechanics, thermodynamics, and aerodynamics to the design and analysis of steam and gas turbines, compressors, and pumps. *Occasional*.

EML 5403 ECS-MECH/AERO 3(3,0)
Science and Technology of Fuel Cells: PR: EGN 3365, EMA 4102 or C.I. Fundamental knowledge along with hands-on experience with design, manufacturing and operation of fuel cells. *Occasional*.

EML 5430C ECS-MECH/AERO 3(2,3)
Design for Manufacturing in Turbomachinery: Gas/Steam/Wind Turbines & Generators: PR: EGN 3365 or EMA 3706. Overall assembly of rotating and stationary components in power generation powertrains; probabilistic design, materials, coatings, manufacturing steps, defects for gas/steam/wind turbines and generators. *Fall*.

EML 5431C ECS-MECH/AERO 3(2,3)
Design for Mechanical & Dynamic Integrity and Reliability in Turbomachinery: PR: EGM 3601, EML 4220 or EML 4225, EGN 3365 or EMA 3706. Mechanical & dynamic integrity issues such as creep, fatigue, fracture, rotordynamics, vibration, flutter, as related to turbines and generators; reliability; cost-time-performance trade-off in design. *Spring*.

EML 5456 ECS-MECH/AERO 3(3,0)
Turbines for Sustainable Power: PR: EGM 3601, (EGN 3365 or EMA 3706), (EML 3701 or EAS 3101); CR: EML 4142. Multidisciplinary aspects of turbine design for sustainable power generation including aerodynamics to combustion and emissions to reliability; covers multiple applications of convention and green technology. *Fall*.

EML 5532C ECS-MECH/AERO 3(2,3)
Computer-Aided Design for Manufacture: PR: EGN 4535C. Builds on introductory material covered in EML 4535C. Topics include computer modeling for the synthesis, simulation, design and manufacture of mechanical, thermal, and aerospace systems. *Occasional*.

EML 5545 ECS-MECH/AERO 3(3,0)
Smart and Adaptive Structures: PR: (EAS 4200 or EML 3500) and EML 4225 and (EGN 3365 or EMA 3706) or C.I. Modeling and design of structures with integrated active materials: piezoelectric ceramics and polymers, shape memory alloys and polymers, magneto- / electro-rheological fluids, magneto- / electro-strictives. Multi-stable structures. *Even Spring*.

EML 5546 ECS-MECH/AERO 3(3,0)
Engineering Design with Composite Materials: PR: EML 5237. Mechanics of structural components of composite materials under static, thermal, vibratory loads. Instability. Lamina and laminate theory, energy methods, failure theories, and structural joining methods. *Occasional*.

EML 5572 ECS-MECH/AERO 3(3,0)
Probabilistic Methods in Mechanical Design: PR: EML 3500, STA 3032. Uncertainty modeling in design. Use of probabilistic mathematics to assess strength, stiffness, toughness, and stability. Applications. *Occasional*.

EML 5587C ECS-MECH/AERO 3(2,3)
Mechanics of Biostructures I: PR: Graduate standing or C.I. Part I of a two semester course. Mechanical analysis of hard (bone) and soft (organs, connective tissues, etc.) biostructures and the analysis includes preparation and experimental testing for constitutive equations for predictive modeling. *Occasional*.

EML 5588C ECS-MECH/AERO 3(2,3)
Mechanics of Biostructures II: PR: EML 5587C. Part II of a two semester course. Mechanical analysis of hard (bone) and soft (organs, connective tissues, etc) biostructures and the analysis includes preparation and experimental testing for constitutive equations for predictive modeling. *Occasional*.

EML 5713 ECS-MECH/AERO 3(3,0)
Intermediate Fluid Mechanics: PR: EML 4703. CR: EML 5060. Fluid kinematics; conservation equations; Navier-Stokes equations; boundary layer flow, inviscid flow, circulation and vorticity; low Reynolds number flow; turbulence. *Occasional*.

ENC 1101 CAH-WRITE 3(3,0)
Composition I: Expository writing with emphasis on effective communication and critical thinking. Emphasizing the writing process writing topics are based on selected readings and on student experiences. The "NC" grading policy applies to this course. *Fall, Spring*.

ENC 1101H CAH-WRITE 3(3,0)
Honors Freshman Composition I: PR: Score of 60+ on TSWE of SAT or C.I. and permission of Honors. Expository writing with emphasis on effective communication and critical thinking. Emphasizing the writing process writing topics are based on selected readings and on student experiences. The "NC" grading policy applies to this course. Honors-level content. *Fall, Spring*.

ENC 1102 CAH-WRITE 3(3,0)
Composition II: PR: ENC 1101 with a grade of "C-" or better. Focus on extensive research in analytical and argumentative writing based on a variety of readings from the humanities. Emphasis on developing critical thinking and diversity of perspective. The "NC" grading policy applies to this course. *Fall, Spring*.

ENC 1102H CAH-WRITE 3(3,0)
Honors Freshman Composition II: PR: ENC 1101H with a grade of "C-" or better or C.I. and permission of Honors. Same as ENC 1102, with honors-level content. Note on Freshman English Program: ENC 1101 and 1102 must be taken before enrolling in any English course numbered above 1102. The "NC" grading policy applies to this course. *Fall, Spring*.

ENC 1130 CAH-WRITE 3(3,0)
Improving College-Level Writing: Entry-level writing course designed to prepare students to read and write effectively at the college level. *Fall*.

ENC 2127 CAH-WRITE 3(3,0)
Grammar and Composition: A systematic study of grammar and mechanics to improve editing for clarity and accuracy in writing. *Occasional*.

ENC 3241 CAH-ENG 3(3,0)
Writing for the Technical Professional: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Writing effective correspondence, instructions, proposals, and informal and formal reports. *Fall, Spring*.

ENC 3241H CAH-ENG 3(3,0)
Honors Writing for the Technical Professional: PR: Grade of C (2.0) or better required in ENC 1102H or equivalent credit, and Consent of Honors. Instruction and practice in expository prose used in technical writing, layout and design of data, and translation of technical documents for the lay audience. With Honors content. *Occasional*.

ENC 3250 CAH-WRITE 3(3,0)
Professional Writing: PR: Grade of "C" (2.0) or better required in ENC 1102. Study of and practice with professional writing as a rhetorical act involving problem solving and audience accommodation; includes research and text production practices as well as business genres and conventions. *Fall, Spring*.

ENC 3250H CAH-WRITE 3(3,0)
Honors Professional Writing: PR: Consent of Honors. Study of and practice with professional writing as a rhetorical act involving problem solving and audience accommodation; includes research and text production practices as well as business genres and conventions. With Honors content. *Occasional*.

ENC 3310 CAH-ENG 3(3,0)
Magazine Writing I: PR: Grade of C (2.0) or better required in ENC 1102. Intensive practice in description narration, exposition and argumentation; control of tone, mood, viewpoint, and level of diction. Applicable to article, essay, and short story writing. *Fall, Spring*.

ENC 3311 CAH-WRITE 3(3,0)
Essay as Cultural Commentary: PR: Grade of C (2.0) or better required in ENC 1102 or C.I. Rhetorical and historical study, analysis, and writing of essay as reflective exploration and cultural commentary. *Fall, Spring.*

ENC 3314 CAH-WRITE 3(3,0)
Writing and Rhetoric Foundations: PR: Grade of "C" (2.0) or better in ENC 1102 or equivalent or C.I. Study and practice of research, writing, and rhetorical skills that enable successful (inter)disciplinary writing in and across the university. *Fall, Spring.*

ENC 3315 CAH-WRITE 3(3,0)
Argumentative Writing: PR: Grade of "C" (2.0) or better required in ENC 1102. Students will analyze current issues, assess others' arguments, and construct various types of arguments, including visual and multimedia. *Fall, Spring.*

ENC 3330 CAH-WRITE 3(3,0)
Rhetorical Traditions: PR: Grade of "C" (2.0) or better required in ENC 1102. Examines the roots of rhetoric and the evolution of its theoretical, pedagogical and civic tradition. *Even Spring.*

ENC 3331 CAH-WRITE 3(3,0)
Rhetoric and Civic Engagement: PR: Grade of "C" (2.0) or better required in ENC 1102. Examines rhetorical theory in order to analyze and participate in contemporary public debates and civic engagement efforts. *Fall, Spring.*

ENC 3331H CAH-WRITE 3(3,0)
Honors Rhetoric and Civic Engagement: PR: Consent of Honors. Examines rhetorical theory in order to analyze and participate in contemporary public debates and civic engagement efforts. With Honors Content. *Even Spring.*

ENC 3351 CAH-WRITE 3(3,0)
Writing for Publication: PR: Grade of "C" (2.0) or better required in ENC 1102. Examines freelance markets, article genre, and the rhetorical skills needed to design and produce articles for specific audiences and publications. *Occasional.*

ENC 3351H CAH-WRITE 3(3,0)
Honors Writing for Publication: PR: Grade of "C" (2.0) or better required in ENC 1102, and consent of Honors. Examines freelance markets, article genres, and rhetorical skills needed to design and produce articles for specific audiences and publications, and editorial roles for publications. With Honors content. *Occasional.*

ENC 3372 CAH-WRITE 3(3,0)
Topics in Civic Rhetoric and Writing: PR: Grade of "C" (2.0) or better required in ENC 1102. In-depth study and application of a specific issue related to civic rhetoric and writing. *Occasional.*

ENC 3373 CAH-WRITE 3(3,0)
Cultural Rhetorics: PR: Grade of "C" (2.0) or better required in ENC 1102. Study of the diverse cultural production of and the cultural forces impacting the rhetoric of individuals and communities. *Occasional.*

ENC 3375 CAH-WRITE 3(3,0)
Rhetoric in Popular Culture: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Exploration of how persuasion works in a specific set of popular culture discourses, such as sports, music, and gaming. *Occasional.*

ENC 3417 CAH-WRITE 3(3,0)
Literacy and Technology: PR: Grade of "C" (2.0) or better required in ENC 1102. Study of technology's impact on writing and literacy, focus on new media. *Spring.*

ENC 3433 CAH-WRITE 3(3,0)
Multimedia Writing and Composition: PR: "C" (2.0) or better in ENC 1102 or C.I. Study and practice of multimedia writing (involving sound, visual, and linguistic forms) with an emphasis on the process of text production and remixing for different rhetorical contexts and audiences. *Occasional.*

ENC 3453 CAH-WRITE 3(3,0)
Writing About Health and Medicine: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Writing practices and genres of the health professions, with emphasis on writing about health and medicine for lay audiences. *Occasional.*

ENC 3454 CAH-WRITE 3(3,0)
Topics in Professional and Digital Writing: PR: Grade of "C" (2.0) or better required in ENC 1102. In-depth study and application of a specific issue related to professional and/or digital writing. *Occasional.*

ENC 3455 CAH-WRITE 3(3,0)
Writing about Science and Technology: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Writing about scientific and technological research and developments for non-scientific audiences (including novices and policymakers). *Occasional.*

ENC 3455H CAH-WRITE 3(3,0)
Honors Writing About Science and Technology: PR: Consent of Honors. Writing about scientific and technological research and issues for nonscientific audiences, including laypeople and policymakers. With Honors content. *Occasional.*

ENC 3456H CAH-WRITE 3(3,0)
Honors Writing about Health and Medicine: PR: Consent of Honors. Writing practices and genres of the health professions, with emphasis on writing about health and medicine for lay audiences. With Honors content. *Occasional.*

ENC 3473 CAH-WRITE VAR(VAR,0)
Writing in Disciplinary Cultures: PR: Grade of "C" (2.0) or better required in ENC 1102. Project-based study of writing (including genres, conventions, and arguments) in disciplines across the university. May be repeated for credit. *Occasional.*

ENC 3502 CAH-WRITE 3(3,0)
Researching Writing and Literacy: PR: Grade of "C" (2.0) or better required in ENC 1102. Overview of important knowledge domains and lines of inquiry in writing and literacy research, with emphasis on research methodologies. *Occasional.*

ENC 3503 CAH-WRITE 3(3,0)
Topics in Writing & Literacy Studies: PR: Grade of "C" (2.0) or better required in ENC 1102. An in-depth study of and practice with a specific issue related to language theory and/or the teaching of writing. *Occasional.*

ENC 3521 CAH-WRITE 3(3,0)
Writing Across Difference: PR: Grade of "C" (2.0) or better required in ENC 1102. Examines cultural influences on language and literacy practices, with emphasis on applications for writing teachers. *Occasional.*

ENC 3905 CAH-ENG 3(3,0)
Directed experience in Writing: PR: Grade of C (2.0) or better required in ENC 1102 and C.I. Individualized topics of study and/or research in writing with personalized faculty direction. May be repeated for credit. *Occasional.*

ENC 4212 CAH-WRITE 3(3,0)
Professional Editing: PR: Grade of "C" (2.0) or better required in ENC 1102. Students will perform different types and levels of editing on a range of print and online texts from business and non-profit contexts. *Even Fall.*

ENC 4215 CAH-ENG 3(3,0)
Technical Publication and Project Management: PR: Grade of C (2.0) or better required in ENC 3211 or ENC 3241 or C.I. New publishing technology, stressing composition and printing; word processing, automated text processing, methods of reproduction. Introduction of graphics; style, format, layout, and boardwork. *Spring.*

ENC 4218 CAH-ENG 3(3,0)
The Visual in Technical Documentation: PR: Grade of C (2.0) or better required in ENC 4293. Relevant theories of the visual and their application to technical communication practice. *Fall.*

ENC 4219 CAH-ENG 3(3,0)
Technical Communication and Plain Language: PR: Grade of "C" (2.0) or better in ENC 3241 or C.I. A study of the origins and elements of plain language and the strategies for applying it to technical communication. *Occasional.*

ENC 4262 CAH-ENG 3(3,0)
International Technical Communication: PR: Grade of C (2.0) or better required in ENC 3211 or ENC 3241 or C.I. International issues in the field of technical communication including internationalizing documents, user interface design, international collaboration, and rhetorical and logistical challenges. *Occasional.*

ENC 4265 CAH-ENG 3(3,0)
Writing for the Computer Industry: PR: Grade of C (2.0) or better in ENC 1102 or C.I. Creating different kinds of software manuals or online help systems for the computer industry. *Occasional.*

ENC 4275 CAH-WRITE 3(3,0)
Theory and Practice of Tutoring Writing: PR: Grade of "C" (2.0) or better in ENC 1102 and C.I. Theory and practice of assessing and responding to writing from the standpoint of a collaborator, as opposed to evaluator. *Fall.*

ENC 4280 CAH-ENG 3(3,0)
Technical Writing Style: PR: Grade of C (2.0) or better required in ENC 3211 or ENC 3241 or C.I. Strategies for understanding and improving writing styles, particularly for a variety of technical writing genres. *Spring.*

ENC 4290 CAH-ENG 3(3,0)
Usability Testing for Technical Communication: PR: Grade of "C" (2.0) or better required in ENC 3241 or C.I. Usability theory and techniques for evaluating manuals, online documentation, and other technical communication genres. *Occasional.*

ENC 4293 CAH-ENG 3(3,0)
Documentation and the Collaborative Process: PR: Grade of C (2.0) or better required in ENC 3211 or ENC 3241. Development of a book-length project from idea to final published product. Examples may include style manuals, policies and procedures, and training manuals. *Fall, Spring.*

ENC 4294 CAH-ENG 3(3,0)
Documentation and Client-Based Collaboration: PR: Grade of C (2.0) or better required in ENC 4293. Practical application of editing theory to large ongoing projects from the student's particular field. Should be taken concurrently with ENC 4215. *Fall, Spring.*

ENC 4298 CAH-ENG 3(3,0)
Technical Communication for the Virtual Workplace: PR: Grade of C (2.0) or better in ENC 1102 or C.I. Collaborative technologies used in the modern workplace and the challenges associated with virtual collaboration. Students will participate in a virtual team project. *Occasional.*

ENC 4312 CAH-ENG 3(3,0)
Theory & Practice Persuasive Writing: PR: Grade of C (2.0) or better required in ENC 1102. A study of the theory and practice of persuasion, including logical emotional and ethical appeals. *Occasional.*

ENC 4313 CAH-ENG 3(3,0)
Research Writing: PR: Grade of C (2.0) or better in ENC 1102, junior standing, and C.I. Writing correspondence, instructions, proposals, and informal and formal reports in various disciplines. *Occasional.*

ENC 4353 CAH-WRITE 3(3,0)
Writing for Social Change: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Study of how activist writing and other symbolic action can be used to mobilize social or policy change around contemporary controversial issues. *Occasional.*

ENC 4354 CAH-WRITE 3(3,0)
Writing with Communities and Nonprofits: PR: Grade of "C" (2.0) or better required in ENC 1102. Study and practice of methods for writing in partnership with nonprofits and the communities they serve, with an emphasis on audience analysis and community engagement. *Occasional.*

ENC 4354H CAH-WRITE 3(3,0)
Honors Writing with Communities and Nonprofits: PR: Grade of "C" (2.0) or better required in ENC 1102, and consent of Honors. Study and practice of methods for writing in partnership with nonprofits and the communities they serve, with an emphasis on audience analysis and community engagement. With Honors content. *Occasional.*

UCF Courses and Descriptions

ENC 4360 CAH-ENG 3(3,0)
Nature Writing: PR: English major or minor and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Students will write essays that explore different approaches to writing about the natural world, and will discuss issues raised by such writing. *Occasional.*

ENC 4374 CAH-WRITE 3(3,0)
Gendered Rhetorics: PR: Grade of "C" (2.0) or better required in ENC 1102. Historical and theoretical study of gendered rhetorical practices, with emphasis on women rhetors. *Occasional.*

ENC 4378 CAH-WRITE 3(3,0)
Writing in Global and Transnational Contexts: PR: "C" (2.0) or better in ENC 1102 or C.I. Examination of the ways language and rhetoric travel across cultures and countries, with practice strategies for transnational communication with local and global audiences. *Occasional.*

ENC 4379 CAH-WRITE 3(3,0)
Writing and Rhetoric Capstone: PR: Senior standing; ENC 3331, ENC 3505, and ENG 3836; PR or CR: ENC 4944, ENC 3473, or ENC 4275. Culminating required course for students majoring in Writing and Rhetoric. Students reflect on disciplinary identity, possible career trajectories, and transferrable strategies for writing in their lives. *Spring.*

ENC 4414 CAH-ENG 3(3,0)
Writing and Hypertext: PR: Grade of C (2.0) or better required in ENC 3211 or ENC 3241. Theories of electronic literacy and information to develop a more critical sensibility regarding hypertext. *Occasional.*

ENC 4415 CAH-ENG 3(3,0)
Digital Rhetorics and The Modern Dialectic: PR: Grade of "C" (2.0) or better required in ENC 1102. Explores the development of digital rhetorics appearing in online environments through close reading and analysis of formative rhetorical texts, fiction, and internet materials. *Fall/Spring.*

ENC 4416 CAH-WRITE 3(3,0)
Writing in Digital Environments: PR: Grade of "C" (2.0) or better required in ENC 1102. Study and practice of new media/Internet writing and publishing, covering a range of online and multimedia genres. *Occasional.*

ENC 4416H CAH-WRITE 3(3,0)
Honors Writing in Digital Environments: PR: Consent of Honors. Critical and rhetorical engagement with digital writing and networked systems, including a range of online media and genres. With Honors content. *Occasional.*

ENC 4434 CAH-WRITE 3(3,0)
Visual and Material Rhetorics: PR: "C" (2.0) or better in ENC 1102 or C.I. Study of visual and material textual elements within different historical and contemporary rhetorical practices and performances. Students will use a variety of compositional materials to produce texts. *Occasional.*

ENC 4504 CAH-WRITE 3(3,0)
Contemporary Composition Theory: PR: Grade of "C" (2.0) or better required in ENC 1102. Considers major theoretical paradigms and more emergent theoretical explorations in modern and contemporary composition studies. *Occasional.*

ENC 4523 CAH-WRITE 3(3,0)
Writing and Identity: PR: Grade of "C" (2.0) or better required in ENC 1102. Explores the role of identity in writing, particularly negotiating gender, race, class, sexual identity and other difference issues. *Occasional.*

ENC 4544 CAH-WRITE 3(3,0)
Writing Pedagogy: PR: Grade of "C" (2.0) or better required in ENC 1102. Overview of pedagogical issues and strategies related to the teaching of writing, with focus on college-level writing. *Occasional.*

ENC 4944 CAH-WRITE 3(3,0)
Writing Internship: PR: Junior standing and ENC 3331 and ENG 3836 and declared Writing and Rhetoric Major. Training and practice in professional and/or civic writing through approved internship with business or organization; involves reporting and reflecting on experience *Fall.*

ENC 4950 CAH-WRITE 0(0,0)
Writing ePortfolio: PR: "C" or better in ENC 1102. Student must have completed at least 33 hours toward the B.A. in Writing & Rhetoric, 9 hours toward the Minor in Writing & Rhetoric, or at least 6 hours toward the Certificate in Public and Professional Writing. In their graduation term, Writing & Rhetoric majors, minors, or Public & Professional Writing Certificate students revise and submit their writing e-portfolio for departmental approval. *Occasional.*

ENC 5225 CAH-ENG 3(3,0)
Theory and Practice of Document Usability: PR: Graduate status or senior standing or C.I. Presents theory and practice of how document usability is assessed and improved. *Occasional.*

ENC 5237 CAH-WRITE 3(3,0)
Writing for the Business Professional: PR: Graduate status or senior standing or C.I. A study of the major document designs for professionals in business, focusing on audience, purpose, style, arrangements, and content. *Fall/Spring.*

ENC 5276 CAH-WRITE 3(3,0)
Theory and Practice of Tutoring Writing: PR: Admission to the M.A. in Rhetoric and Composition program, graduate standing or C.I. The theory and practice of assessing and responding to writing as a collaborator (as opposed to evaluator). *Fall.*

ENC 5337 CAH-ENG 3(3,0)
Rhetorical Theory: PR: Graduate standing or C.I. Overview of theory and history of classical and modern rhetorical theory and rhetorical instruction. *Fall.*

ENC 5705 CAH-WRITE 3(2,1)
Theory and Practice in Composition: PR: Graduate status or senior standing or C.I. Intensive study of theories of composition, with practical experience in the writing laboratory and in composition classes. *Spring.*

ENC 5930 CAH-WRITE 3(3,0)
Current Topics in Professional Writing: PR: Graduate status or C.I. Students will learn how to produce texts for specialized fields of discourse, including the medical and legal profession, as well as for general publication. *Occasional.*

ENG 3010 CAH-ENG 3(3,0)
Practical Criticism: PR: Grade of C (2.0) or better required in ENC 1102. Student evaluation of selected fiction, poetry, and drama through practical exercises in literary criticism. *Occasional.*

ENG 3014 CAH-ENG 3(3,0)
Theories and Techniques of Literature Study: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Techniques of analysis, theories of interpretation, and application of critical approaches to selected works. *Fall/Spring.*

ENG 3073 CAH-ENG 3(3,0)
Cultural Studies Literature: PR: Grade of C (2.0) or better required in ENC 1102. The theoretical and cultural developments over time that call for broadening the applications of literary analysis to produce "cultural studies." *Occasional.*

ENG 3612 CAH-ENG 3(3,0)
Trends in Literary, Cultural, and Textual Studies: PR: Grade of "C" (2.0) or better in ENC 1102. Literary analysis of textual production within contemporary social trends and new technologies. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

ENG 3817 CAH-ENG 3(3,0)
Digital Archives: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Examines "debates" in the digital humanities and prepares students to work with the creation, management, and preservation of digital archives content. *Occasional.*

ENG 3833 CAH-WRITE 3(3,0)
Marketing Your Writing: PR: "C" (2.0) or better in ENC 3351. Exploration of writing markets and publishing opportunities therein, the submission process, and author marketing and negotiation strategies. *Spring.*

ENG 3836 CAH-WRITE 3(3,0)
Professional Lives and Literacy Practices: PR: "C" (2.0) or better in ENC 1102. Study of technology-assisted professional writing and literacy practices around knowledge management work in organizations and communities. *Fall/Spring.*

ENG 4114 CAH-ENG 3(3,0)
Literature and Film: PR: Grade of C (2.0) or better required in ENG 3014. The differences in emphasis, medium, and technique in selected novels and their film adaptations. *Occasional.*

ENG 4614 CAH-ENG 3(3,0)
Discourse of Global Cultural Studies: PR: Grade of "C" (2.0) or better required in ENG 3014, or C.I. American popular culture texts in world context, using concepts and theories from global cultural studies to analyze transmission, translation, and appropriation. *Occasional.*

ENG 5009 CAH-ENG 3(3,0)
Methods of Bibliography and Research: PR: Graduate status or senior standing or C.I. Bibliographical, library and systematic approaches to research at the graduate level in language and literature. *Fall.*

ENL 2012 CAH-ENG 3(3,0)
English Literature I: PR: Grade of C (2.0) or better required in ENC 1102. Beowulf to 1798. *Fall/Spring.*

ENL 2022 CAH-ENG 3(3,0)
English Literature II: PR: Grade of C (2.0) or better required in ENC 1102. From 1798 to 1914. *Fall/Spring.*

ENL 3220 CAH-ENG 3(3,0)
English Renaissance Poetry and Prose: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Selected authors and major themes in English Renaissance poetry and prose. *Occasional.*

ENL 3222 CAH-ENG 3(3,0)
Renaissance Women in Literature: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Literature by and about women in the Renaissance. *Occasional.*

ENL 3231 CAH-ENG 3(3,0)
Restoration Literature: PR: Grade of "C" or better in ENC 1102. This course surveys the poetry, drama, and prose written during the Restoration era (1660-1700) and the social, historical, and political contexts. *Occasional.*

ENL 3296 CAH-ENG 3(3,0)
Gothic Literature: PR: Grade of "C" or better required in ENC 1102. A study of Gothic literature (prose, poetry, drama) in the British Isles and its cultural contexts. *Occasional.*

ENL 3296H CAH-ENG 3(3,0)
Honors Gothic Literature: PR: ENC 1102 and Consent of Honors. A study of Gothic literature (prose, poetry, drama) in the British Isles and its cultural contexts. With Honors content. *Occasional.*

ENL 3378 CAH-ENG 3(3,0)
Harry Potter Studies: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Examines J. K. Rowling's Harry Potter series of books and other adaptations. *Occasional.*

ENL 3654 CAH-ENG 3(3,0)
Black British Literature: PR: Grade of "C" or better required in ENC 1102. Study of literature written inside the UK by authors of African, South Asian, and Caribbean lineage. *Occasional.*

ENL 4101 CAH-ENG 3(3,0)
English Novel: PR: Grade of C (2.0) or better required in ENG 3014. Analysis of major English novelists. *Occasional.*

ENL 4230 CAH-ENG 3(3,0)
Eighteenth-Century Studies: PR: Grade of "C" (2.0) or better required in ENG 3014. A study of English literature from 1660 to 1800 and its cultural contexts. *Occasional.*

ENL 4240 CAH-ENG 3(3,0)
English Romantic Writers: PR: Grade of C (2.0) or better required in ENG 3014. Study of English poets and essayists of the romantic period, such as Wordsworth, Coleridge, Hazlitt, Lamb, Byron, Shelley and Keats. *Occasional.*

UCF Courses and Descriptions

ENL 4253 CAH-ENG 3(3,0)
The Victorian Age: PR: Grade of "C" (2.0) or better required in ENG 3014 or C.I. Key issues and authors of the Victorian age (1837-1901) covering, fiction, poetry, and nonfiction prose. *Occasional.*

ENL 4262 CAH-ENG 3(3,0)
Nineteenth Century British Prose: PR: Grade of C (2.0) or better required in ENG 3014. Essays and fiction of the nineteenth century. *Occasional.*

ENL 4273 CAH-ENG 3(3,0)
Modern British Literature: PR: Grade of C (2.0) or better required in ENG 3014. Major writers of modern British literature. *Occasional.*

ENL 4303 CAH-ENG 3(3,0)
British Authors: PR: Grade of "C" (2.0) or better required in ENG 3014, or C.I. Study of the works of a single British author. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

ENL 4311 CAH-ENG 3(3,0)
Chaucer: PR: Grade of C (2.0) or better required in ENG 3014. The Canterbury Tales, Troilus and Criseyde, and other works. *Occasional.*

ENL 4333 CAH-ENG 3(3,0)
Shakespeare Studies: PR: Grade of "C" (2.0) or better required in ENG 3014. Reading, analysis, and discussion of Shakespeare's plays. *Occasional.*

ENL 4341 CAH-ENG 3(3,0)
Milton and His Age: PR: Grade of C (2.0) or better required in ENG 3014. Paradise Lost, Paradise Regained, Samson Agonistes, shorter poems and selected prose. *Occasional.*

ENT 3613 BA-MAN 3(3,0)
Creativity and Entrepreneurship: PR: Sophomore Standing. This course portrays entrepreneurship as a creative problem solving process emphasizing opportunity recognition, resourcefulness, and leadership that results in startup, social, government and corporate ventures. *Fall, Spring.*

ENT 4013 BA-MAN 3(3,0)
New Venture Design: PR: Junior standing. Applied course which focuses on the creation, evaluation, development and launch readiness of a new business or social venture. *Fall, Spring.*

ENT 4014 BA-MAN 3(3,0)
New Venture Implementation: PR: ENT 4013. Develops procedure by which start-up businesses can implement a well-researched business model by planning standard business functions necessary to launch the venture. *Fall, Spring.*

ENT 4183 BA-MAN 3(3,0)
Technological Entrepreneurship: PR: Junior Standing. How technology and innovation processes affect social and organizational change, and the distinct challenges associated with launching, managing and growing technology-based business ventures. *Spring.*

ENT 4412 BA-FIN 3(3,0)
Managing Small Business Finances: PR: Admission to the Integrated Business major. Emphasizes the relationships between the finance function and other company activities. Focuses on financial statements, cash flow, sources of financing, valuation, inventory and vendor management. *Fall, Spring.*

ENT 4503 BA-MAN 3(3,0)
Social Entrepreneurship: PR: Junior standing. Emphasis on understanding how social entrepreneurs effect change in poor communities in the developing world. *Fall, Spring.*

ENT 4942 BA-MAN 3(0,3)
Entrepreneurial Internship: PR: Junior standing, application approval, and consent of Management Department. Supervised, entrepreneurial-related work experience in a sponsoring organization. See Management Department for information. Application required. *Fall, Spring.*

ENT 4948 BA-MAN 3(3,0)
Launching the Venture I: PR: C.I. (Admission to the Launching the Venture Program). This experiential course helps students working on startup ventures to achieve critical early stage milestones that can accelerate their progress toward launching the venture. *Fall.*

ENT 4949 BA-MAN 3(3,0)
Launching the Venture II: PR: ENT 4948. This experiential course helps students working on startup ventures to undertake tasks necessary to legally form their company, go to market, and launch the venture. *Spring.*

ENV 3001 ECS-CECE 3(3,0)
Environmental Engineering: PR: A grade of "C" (2.0) or better in MAC 2312 and in CHM 2045C or CHS 1440 or CHM 2041. Introduction to concepts and terminology of environmental engineering. Stresses material and energy balances. Covers air, water and land pollution. *Fall, Spring.*

ENV 4120 ECS-CECE 3(3,0)
Air Pollution and Hazardous Waste Control: PR: EGN 3343, CWR 3201 and ENV 3001 all with a grade of "C" (2.0) or better. Air pollution and hazardous waste engineering. Air resources management, engineering design, and operation of air pollution control systems. Storage, collection, processing, and disposal of hazardous wastes. *Fall.*

ENV 4122C ECS-CECE 3(2,2)
Air Pollution Control Design: PR: ENV 4120 with grade of "C" (2.0) or better and department consent. Project course on design of air pollution control equipment and systems. *Spring.*

ENV 4300C ECS-CECE 3(2,2)
Solid Waste Facility Design: PR: ENV 4341 with grade of "C" (2.0) or better and department consent. Project course on design of a municipal solid waste landfill. *Occasional.*

ENV 4341 ECS-CECE 3(3,0)
Sustainable Resource Management: PR: ENV 3001 with a grade of "C" (2.0) or better. Principles of industrial ecology, life cycle analysis, regulation of solid wastes, and sustainable engineering design. Solid waste management facilities, food-energy-water nexus, carbon and water footprints. *Fall.*

ENV 4433C ECS-CECE 3(2,2)
Environmental Engineering Wastewater Design: PR: EES 4111C, ENV 4531 both with grades of "C" (2.0) or better and department consent. Project course in advanced municipal and industrial wastewater treatment design with emphasis on teamwork to complete the design process. *Occasional.*

ENV 4531 ECS-CECE 3(3,0)
Environmental Engineering Unit Operations & Processes: PR: ENV 3001, CWR 3201 both with a minimum grade of "C" (2.0) or better. Water and wastewater treatment design considerations with effluent and sludge handling, treatment, and disposal. *Fall, Spring.*

ENV 4561 ECS-CECE 3(3,0)
Advanced Environmental Engineering Operations & Processes: PR: ENV 4531 with a grade of "C" (2.0) or better. Advanced water and wastewater treatment including biological nutrient removal and desalination. *Spring.*

ENV 4562C ECS-CECE 3(2,2)
Environmental Engineering Water Treatment Design: PR: EES 4202C and ENV 4531 both with grades of "C" (2.0) or better and department consent. Application of systems design criteria in the specification and design of a full scale potable water treatment plant. *Spring.* M&S fee \$43.00

ENV 5410 ECS-CECE 3(3,0)
Water Treatment: PR: EES 4202C or ENV 5517 or C.I. Potable water regulations, standards, chemical reactors, oxidation, disinfection, disinfection by-products, ultraviolet irradiation. Internal corrosion and microbial control in municipal and industrial water distribution systems. *Odd Spring.*

ENV 5505 ECS-CECE 3(3,0)
Sludge Management Operations in Environmental Engineering: PR: ENV 4561. Theory and design of sludge management operations and processes in environmental engineering, including stabilization dewatering and ultimate disposal. *Occasional.*

ENV 5517 ECS-CECE 3(3,0)
Engineering Chemical and Biological Processes: CR: ENV 4561(or equivalent) or C.I. Coverage of equilibrium/aquatic chemistry, softening and coagulation, and disinfection of water. Microbiology and biochemistry as applied to activated sludge system design. *Fall.*

ENV 5636 ECS-CECE 3(3,0)
Environmental and Water Resources Systems Analysis: PR: ENV 3001 or C.I. Discussion of environmental and water resources systems with the emphasis on cost-effectiveness, pollution prevention, and sustainability to aid in environmental engineering decision-making. *Occasional.*

ENY 4004C COS-BIOL 4(2,6)
General Entomology: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Biology of insects: identification, taxonomy, physiology, behavior, and ecology. *Occasional.* M&S fee \$15.00

ENY 5006C COS-BIOL 4(2,6)
Entomology: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Morphology, physiology, ontogeny, behavior, ecology and population biology of insects. *Odd Fall.* M&S fee \$40.00

EPD 5395 ED-CFCS 3(3,0)
Physical and Sociological Implications of Handicapping Conditions: Overview of physical and sociological factors which may contribute to delayed learning or physical impairments in the exceptional populations. Physical interventions and first-aid practices are examined. *Occasional.*

ESE 3940 ED-TL&L 3-16(0,3-16)
Internship I - Secondary: PR: EDG 4410 and C.I. Student teaching in a secondary school under the supervision of a certified classroom teacher. Graded S/U. *Occasional.*

ESE 4033C ED-TL&L 3(2,2)
Critical Issues and Trends in Secondary Education: PR: Internship I in specific discipline. CR: ARE 4941, FLE 4941, LAE 4941, MAE 4941, SCE 4941, or SSE 4941. Examination of critical and contemporary issues and trends in secondary education classrooms. Laboratory experiences will connect to the issues and trends specific to particular content areas. *Fall, Spring.*

ESE 4942 ED-TL&L 1(1,0)
Internship II Seminar: PR: Internship I in the specific discipline; CR: Internship II in the specific discipline. Culminating seminar emphasizing current classroom management and assessment issues, as they relate to teaching in the secondary grades. *Fall, Spring.*

ESE 4943 ED-TL&L 7-12(0,35)
Internship II - Secondary: PR: ESE 3940 or EDE 3942. Student teaching in a secondary school under the direction of a certified classroom teacher. Scheduled concurrent seminars. Graded S/U or Letter grade. *Occasional.*

ESE 5214 ED-TL&L 3(3,0)
Secondary School Curriculum Improvement I: PR: Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development. *Occasional.*

ESI 4221 ECS-IEMS 3(3,0)
Empirical Methods for Industrial Engineering: PR: STA 3032 with a grade of "C" (2.0) or better. Application of empirical methods for industrial engineering problem solving. *Fall.*

ESI 4234 ECS-IEMS 3(3,0)
Quality Engineering: PR: STA 3032 with a grade of "C" (2.0) or better. Basic concepts and techniques of quality control; applications of statistics in industrial research; design of quality assurance systems; reliability engineering. *Fall.*

UCF Courses and Descriptions

ESI 4312 ECS-IEMS 3(3,0)
Operations Research: PR: STA 3032 and MAS 3105 with grades of "C" (2.0) or better in both. Introduction to linear, non-linear, and dynamic programming. Decision analysis, random processes, and queueing. Course covers theory through application and implementation of results. *Fall.*

ESI 4523 ECS-IEMS 3(3,0)
Systems Simulation: PR: STA 3032 with a grade of "C" (2.0) or better. Methods and procedures for simulating large-scale systems with digital computers. High level simulation languages are used. *Spring.*

ESI 4628 ECS-IEMS 3(3,0)
Decision Support Systems for Industrial Engineers: PR: STA 3032 with a grade of "C" (2.0) or better and COP 3223C (or any other high level computer programming). Development of complete spreadsheet-based decision support system applications for analyzing and modeling real-world IE problems. *Fall.*

ESI 5219 ECS-IEMS 3(3,0)
Engineering Statistics: PR: C.I. Discrete and continuous probability distributions, hypothesis testing, regression, nonparametric stats and ANOVA. *Fall, Spring.*

ESI 5227 ECS-IEMS 3(3,0)
Total Quality Improvement: PR: STA 3032 or equivalent. Quality improvement (QI) tools and techniques, advanced QI techniques, quality improvement systems, total quality management concepts and implementation, planning and management tools, and case studies. *Occasional.*

ESI 5236 ECS-IEMS 3(3,0)
Reliability Engineering: PR: ESI 4234 or equivalent, or C.I. Reliability theory and modeling approaches. Topics include: failure data analysis, maintainability, reliability standards (DOD), software reliability, reliability in design, and electronic systems reliability. *Fall.*

ESI 5306 ECS-IEMS 3(3,0)
Operations Research: PR: STA 3032. Methods of operations research, including formulation for models and derivation of solutions; linear programming, network models queueing theory, simulation, and nonlinear optimization techniques. *Fall.*

ESI 5359 ECS-IEMS 3(3,0)
Risk Assessment and Management: PR: ESI 5219 or STA 3032. Problems and complexities involved in risk assessment and management. Selected methodologies are illustrated through realistic applications in engineering and the sciences. *Occasional.*

ESI 5419C ECS-IEMS 3(2,2)
Engineering Applications of Linear and Nonlinear Optimization: PR: ESI 4312 or ESI 5306. Course covers linear and nonlinear optimization applications in production planning, staffing, engineering design, distribution networks, and other engineering areas. Focuses on practicing or analyses. *Occasional.*

ESI 5531 ECS-IEMS 3(3,0)
Discrete Systems Simulation: PR: STA 3032. Methods for performing discrete systems simulation, including network modeling, will be treated. *Spring.*

ETI 3116 ECS-ECS 3(3,0)
Applied Engineering Quality Assurance: PR: STA 2014C or STA 2023. Fundamentals of industrial quality control. Technical specifications, measurements standards, inspection, and gaging. Process control techniques. *Fall.*

ETI 3671 ECS-ECS 3(3,0)
Technical Economic Analysis: PR: MAC 1105C or equivalent. Analysis of cost elements in technical operations. Basis for comparison of alternatives. *Spring.*

ETI 4186 ECS-ECS 3(3,0)
Applied Reliability: PR: ETI 3116. Practical application of reliability concepts and analysis applicable to the design, production and logistics phases of systems and system components. *Odd Spring.*

ETI 4448 ECS-ECS 3(3,0)
Applied Project Management: PR: Junior Standing. Statement of work, activity decisions, timelines, scheduling, and resource allocation methods. Techniques will be appropriate for large and small projects within commercial, academic, or non-profit organizations. *Fall.*

ETI 4640 ECS-ECS 3(3,0)
Operations Management for Technologists: PR: ETI 4635. Scheduling techniques (PERT), (CPM), are presented. Time Study Methods, Work Sampling and MTM are covered. *Fall.*

EUH 2000 CAH-HIST 3(3,0)
Western Civilization I: A survey of western civilization from ancient to 1648. *Fall, Spring.*

EUH 2000H CAH-HIST 3(3,0)
Honors Western Civilization I: PR: Permission of Honors. A survey of western civilization from ancient to 1648. Honors-level content. *Fall, Spring.*

EUH 2001 CAH-HIST 3(3,0)
Western Civilization II: A survey of western civilization from 1648 to present. May be taken before EUH 2000. *Fall, Spring.*

EUH 2001H CAH-HIST 3(3,0)
Honors Western Civilization II: PR: Permission of Honors. A survey of western civilization from 1648 to present. May be taken before EUH 2000. Honors-level content. *Fall, Spring.*

EUH 3122 CAH-HIST 3(3,0)
Medieval Society and Civilization: PR: EUH 2000 and EUH 2001 or C.I. *Fall, Spring.*

EUH 3124 CAH-HIST 3(3,0)
The Crusades: PR: EUH 2000 and EUH 2001, or C.I. The phenomenon of crusading in medieval Europe and the Middle East, including theories of "just war" and jihad. *Even Spring.*

EUH 3142 CAH-HIST 3(3,0)
Renaissance and Reformation: PR: EUH 2000 and EUH 2001 or C.I. Influence of Renaissance humanism on arts, letters, and politics; Luther and Protestantism; the Catholic Counter-Reformation and the Thirty Years' War. *Occasional.*

EUH 3180 CAH-HIST 3(3,0)
Sorcerers, Saints and Heretics: Religion in the Medieval World: PR: EUH 2000 or C.I. Examines the mixture of superstition, paganism, heresies, Jewish and Muslim communities and the rising Catholic Church that formed religious life and shaped society and culture in Medieval Europe. *Occasional.*

EUH 3235 CAH-HIST 3(3,0)
Romanticism and Realism: PR: EUH 2000 and EUH 2001 or C.I. Napoleon and nationalism; new ideas; conservatism; liberalism, romanticism, republicanism and socialism; urbanization, technology and mass culture, religious decline; Realpolitik, racism, imperialism, and militarism. *Occasional.*

EUH 3242 CAH-HIST 3(3,0)
Modern Europe and the First World War: A survey of the impact of the democratic institutions, education, transportation, housing, health, mass communications, entertainment, women, and warfare. *Occasional.*

EUH 3281 CAH-HIST 3(3,0)
Second World War and Rebirth of Europe: PR: EUH 2000 and EUH 2001 or C.I. Origins of World War II; Hitler's "New Order," and resistance movements; Cold War; de-Stalinization of Russia; Sovietization of East Central Europe; Western reconstruction, and prosperity. *Occasional.*

EUH 3411 CAH-HIST 3(3,0)
Ancient Rome: PR: EUH 2000 and EUH 2001 or C.I. Romans and their contributions to Western Civilization. Covers traditions of Roman Republic, Carthaginian Wars, Imperial Period. *Occasional.*

EUH 3431 CAH-HIST 3(3,0)
History of Modern Italy: PR: EUH 2001. The history of modern Italy from the origins of national unification through the post-World War II era. *Occasional.*

EUH 3441 CAH-HIST 3(3,0)
Early Modern France: PR: EUH 2000 and EUH 2001. France beginning with Wars of Religion. Topics include Absolutism and Louis XIV, nation building, the Enlightenment, imperial expansion, and the French Revolution. *Occasional.*

EUH 3451 CAH-HIST 3(3,0)
History of Modern France: PR: EUH 2001, EUH 3242 or C.I. France beginning with the Napoleonic era. Topics include nineteenth century social, political and consumer revolutions, the World Wars, the Cold War, imperialism and decolonization. *Occasional.*

EUH 3531 CAH-HIST 3(3,0)
Medieval Ireland: PR: EUH 2000 and EUH 2001 or C.I. Ireland's historical and cultural development from 1129 to 1607. *Occasional.*

EUH 3536 CAH-HIST 3(3,0)
Early Modern Ireland: PR: EUH 2000 and EUH 2001 or C.I. Ireland's historical and cultural development from 1607 to 1800. *Occasional.*

EUH 3538 CAH-HIST 3(3,0)
Modern Ireland: PR: EUH 2001. Cultural, political and social developments in Ireland after 1800. *Odd Fall.*

EUH 3651 CAH-HIST 3(3,0)
War and Society: Evolution of weapons, tactics, strategy; role, social status, recruitment of soldiers; influence of military on governments; and international efforts to preserve peace. *Occasional.*

EUH 4283 CAH-HIST 3(3,0)
Cold War Homefronts: PR: EUH 2000 and EUH 2001, or C.I. The Cold War from the homefront perspective addressing both sides of the Iron Curtain. *Occasional.*

EUH 4284 CAH-HIST 3(3,0)
Fascism and Nazism in the Interwar Europe: PR: EUH 2000 and EUH 2001. Fascist and Nazi movements in interwar Europe, mostly Italy and Germany. Origin, development, seizure of power, system of government, ideology, domestic and foreign policies, resistance to these movements. *Occasional.*

EUH 4400 CAH-HIST 3(3,0)
The History of Ancient Greece: PR: EUH 2000, EUH 2001 or WOH 2012, WOH 2022. Systems of government in the various city-states of the ancient Greek world from the Bronze Age through the Hellenistic era (C. 1200BCE-30BCE). *Occasional.*

EUH 4426 CAH-HIST 3(3,0)
Sex and Gender in Antiquity: PR: EUH 2000 or WOH 2012. Examines the concepts of sex and gender in Greek and Roman societies and their impact on modern society. *Occasional.*

EUH 4465 CAH-HIST 3(3,0)
Hitler's Third Reich: PR: EUH 2000 and EUH 2001 or C.I. German nationalism and militarism; World War I and Versailles Treaty; the Weimar Republic and the rise of the Nazis; Second World War, division and recovery. *Occasional.*

EUH 4500 CAH-HIST 3(3,0)
English History to 1485: PR: EUH 2000 and EUH 2001 or C.I. *Occasional.*

EUH 4501 CAH-HIST 3(3,0)
English History: 1485-1815: PR: EUH 2000 and EUH 2001 or C.I. *Occasional.*

EUH 4502 CAH-HIST 3(3,0)
British History: 1815-Present: PR: EUH 2000 and EUH 2001 or C.I. *Occasional.*

EUH 4504 CAH-HIST 3(3,0)
English Legal History I: PR: EUH 2000 or C.I. Explores English law from the first Germanic law codes in the seventh century to the publication of Blackstone's Commentaries on the Laws of England. *Occasional.*

EUH 4571 CAH-HIST 3(3,0)
History of Russia to 1801: PR: EUH 2000 and EUH 2001 or C.I. Kievan State; Mongol Yoke; Development of Muscovite Expansionism and Absolutism; Time of Troubles; Westernization of Russia under Peter I and Catherine; Role of Orthodox Church. *Occasional.*

UCF Courses and Descriptions

EUH 4574 CAH-HIST 3(3,0)
History of Russia: 1801-1917: PR: EUH 2000 and EUH 2001 or C.I. Alexander I; Napoleonic Invasion, Revolutionary Movement; Russian Policy toward Central Asia and China; Great Reforms; Russo-Japanese War; Revolution of 1905; Constitutional Period; Triple Entente. *Occasional.*

EUH 4576 CAH-HIST 3(3,0)
History of Russia in the 20th Century: PR: EUH 2000 and EUH 2001 or C.I. War and Revolution, Lenin, Stalinist Period, WWII, The Cold War. Collapse of Soviet Union, the New Russia. *Occasional.*

EUH 4582 CAH-HIST 3(3,0)
20th Century Russian Diplomatic History: PR: C.I. Russian diplomatic history from the signing of the Entente Cordiale to the aftermath of the Cold War. *Occasional.*

EUH 4610 CAH-HIST 3(3,0)
Women in European Society: From Medieval to Modern: PR: Junior standing or C.I. This course examines the changing situation of women in Europe from the Middle Ages to the twentieth century. *Occasional.*

EUH 4610H CAH-HIST 3(3,0)
Honors Women in European Society: PR: GEP Honors completion or permission of Honors. Interdisciplinary approach to the changing situation of women in Europe across space and over time with honors-level content. *Occasional.*

EUH 4620 CAH-HIST 3(3,0)
European Great Powers: 1815-1914: PR: EUH 2000 and EUH 2001 or C.I. Congress of Vienna, Metternich's system Crimean War, unifications of Italy & Germany, the Bismarckian era, the alliance systems, and the outbreak of World War I. *Occasional.*

EUH 4663 CAH-HIST 3(3,0)
History of Communism in Europe: PR: EUH 2000 and EUH 2001. History of communist movements and regimes in Europe from mid-19th century to the fall of the Berlin Wall. The course focuses on the history of communism outside of Russia and opposition to the communist regimes. *Occasional.*

EUH 4674 CAH-HIST 3(3,0)
Sport and Society in the Ancient World: PR: EUH 2000, EUH 2001 or WOH 2012, WOH 2022. A comparison of the original form of the Olympic Games (and ancient notions of sport) to their modern counterparts. *Occasional.*

EUH 4674H CAH-HIST 3(3,0)
Honors Sports & Society in the Ancient World: PR: GEP Honors completion or permission of Honors. Interdisciplinary approach to comparing the Original Olympic games and other ancient athletic spectacles with their modern counterparts with honors-level content. *Occasional.*

EUH 5285 CAH-HIST 3(3,0)
Colloquium in Europe Since World War II: PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in European history since WW II. *Occasional.*

EUH 5415 CAH-HIST 3(3,0)
Rome and Early Christianity: PR: Graduate standing or C.I. Current trends in historical literature in Christianity from its development as a distinct religion to its relations with and eventual "triumph" within the Roman Empire. *Occasional.*

EUH 5419 CAH-HIST 3(3,0)
Colloquium in Roman History: PR: Graduate standing or C.I. Readings in selected topics in the history of Ancient Rome. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

EUH 5459 CAH-HIST 3(3,0)
Colloquium in French History: PR: Graduate standing or C.I. Readings in selected topics in French History. May be used in the degree program a maximum of 3 times. *Occasional.*

EUH 5546 CAH-HIST 3(3,0)
Colloquium: British History: PR: Graduate status or senior standing or C.I. Selected topics in British history. There is no standard syllabus because content is different with each offering. May be repeated for credit only when course content is different. *Occasional.*

EUH 5579 CAH-HIST 3(3,0)
Colloquium in Soviet Russia: PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in Russian history, 1911-present. *Occasional.*

EUH 5595 CAH-HIST 3(3,0)
Colloquium in Czarist Russia: PR: Graduate status or senior standing or C.I. Selected topics on the literature of Russia under the Czars prior to 1917. *Occasional.*

EUH 5905 CAH-HIST 3(3,0)
European Imperialism: PR: Graduate standing or C.I. Readings in selected topics in the history of European Imperialism. May be used in the degree program a maximum of 3 times only when course content is different. *Occasional.*

EUH 5925 CAH-HIST 3(3,0)
Colloquium in Medieval Europe: PR: Graduate standing or C.I. Readings in selected topics in the history of medieval Europe. May be used in the degree program a maximum of 3 times only when course content is different. *Occasional.*

EVR 1001 COS-BIOL 3(3,0)
Introduction to Environmental Science: Environmental science and environmental systems in the context of real places, real people, real problems and real data. *Fall.*

EVR 1001H COS-BIOL 3(3,0)
Honors Introduction to Environmental Science: Environmental science and environmental systems in the context of real places, real people, real problems, and real data. *Fall.*

EXP 3204 COS-PSYCH 4(4,0)
Perception: PR: PSY 2012. Consideration of physical and psychological variables in perceptual phenomena. Lecture/Lab. *Fall.*

EXP 3250 COS-PSYCH 3(3,0)
Principles of Human Factors Psychology: PR: PSY 2012. The study of human performance in human-machine-environment systems. Topics will include human factors psychology in the design of displays and controls, human information processing, and the effects of some environmental variables on human performance. *Spring.*

EXP 3304 COS-PSYCH 3(3,0)
Motivation: PR: PSY 2012. Psychological and physiological aspects of human motivation. *Fall, Spring.*

EXP 3404 COS-PSYCH 3(3,0)
Basic Learning Processes: PR: PSY 2012. Theory and research on learning phenomena. *Occasional.*

EXP 3604 COS-PSYCH 4(4,0)
Cognitive Psychology: PR: PSY 2012. Theory and research on attention, memory, complex human learning, and problem solving. *Fall, Spring.*

EXP 3640 COS-PSYCH 3(3,0)
Psychology of Language: PR: PSY 2012. Psychological principles involved in the communicative process, with application to individuals and groups. *Occasional.*

EXP 4507 COS-PSYCH 3(3,0)
Advanced Human Memory and Cognition: PR: PSY 3213C, EXP 3604C. In-depth coverage of experimental research on human memory and cognition. *Occasional.*

EXP 5208 COS-PSYCH 3(3,0)
Sensation and Perception: PR: Graduate status or senior standing or C.I. A study involving human information processing with regard to physical and psychological variables in sensory and perceptual phenomena. *Odd Spring.*

EXP 5254 COS-PSYCH 3(3,0)
Human Factors and Aging: PR: Graduate standing, post bac, or senior standing with C.I. An overview of issues related to enhancing quality of life of elderly through the implementation of basic human factors principles in environmental and task design. *Even Fall.*

EXP 5256 COS-PSYCH 3(3,0)
Human Factors I: PR: Graduate status or senior standing or C.I. Survey of human factors literature. Introduction to topics including human capabilities and human interfaces with human-machine systems. *Fall.*

FIL 1000 CAH-SVAD 3(3,0)
Cinema Survey: Introductory course that focuses on different approaches to studying cinema. *Fall, Spring.*

FIL 1000H CAH-SVAD 3(3,0)
Honors Cinema Survey: PR: Permission of Honors. Introductory course that focuses on different approaches to studying cinema. Honors-level content. *Fall, Spring.*

FIL 1007 CAH-SVAD 3(3,0)
Foundations of Story: PR: Digital Media or Cinema Studies major, or Cinema Studies minor. Analysis of dramatic and cinematic narrative structures, both plot and character, from historical and cultural perspectives. *Fall, Spring.*

FIL 1008 CAH-SVAD 3(3,0)
Cinematic Expression/Aesthetics: PR: Digital Media or Cinema Studies major. Analysis and practice of aesthetic principles essential in filmmaking, including composition, moving graphics, image design, lighting styles. *Fall, Spring.*

FIL 2030 CAH-SVAD 3(2,2)
History of Motion Pictures: The history of motion pictures as art and industry; from 1895 to the present. *Fall, Spring.*

FIL 2107 CAH-SVAD 3(3,0)
Script Analysis: PR: or CR: ENC 1101 and FIL 1007. Introduction to dramatic and visual storytelling techniques used in both traditional and non-traditional filmmaking and screenwriting. *Fall, Spring.*

FIL 2423 CAH-SVAD 3(3,0)
Foundations of Production: PR: Digital Media or Cinema Studies major, or Cinema Studies minor. Basic production techniques used in film making. Students must supply their own video equipment and editing equipment. Any format is acceptable. *Fall, Spring.*

FIL 2461 CAH-SVAD 3(3,0)
Cinematography I: PR: FIL 2552 and FIL 2480. Concepts and tools of cinematography and lighting. *Fall.* M&S fee \$45.00

FIL 2480 CAH-SVAD 3(3,0)
Directing for Film I: PR: FIL 1007, FIL 1008, and FIL 3427C. PR or CR: FIL 3115. Introduction to processes and techniques for film directing. *Spring.* M&S fee \$70.00

FIL 2481 CAH-SVAD 3(3,0)
Directing the Actor for Film I: PR: Film BFA or World Cinema major. Developing an ability to direct and work with film actors effectively, using various acting and directing techniques. *Spring.*

FIL 2552 CAH-SVAD 3(3,0)
Editing I: PR: FIL 1008 and FIL 3427C. PR or CR: FIL 3115. Basic editing concepts and techniques, using non-linear editing systems. *Spring.*

FIL 3006 CAH-SVAD 3(3,0)
Art of the Cinema: PR: FIL 2030. An analysis of basic elements of cinematic style including film direction, editing, cinematography, art direction and sound. *Fall, Spring.*

FIL 3035C CAH-SVAD 3(3,1)
Film Histories II: PR: FIL 2030. Surveys and questions historical approaches to film and seeks to open up the field of historical enquiry to a variety of views. *Fall.*

FIL 3036 CAH-SVAD 3(3,0)
Film History I: PR: FIL 2030, FIL 2107 and Film BFA, World Cinema, or Cinema Studies major. Examines film history in a depth of detail and with rigor that is appropriate for majors in the subject. This course covers cinema history from 1895 to 1945. *Fall.*

UCF Courses and Descriptions

FIL 3037 CAH-SVAD 3(3,0)
Film History II: PR: FIL 2030, FIL 2107 and Film BFA, World Cinema, or Cinema Studies major. Film history in a depth of detail and with rigor that is appropriate for majors in the subject. This course covers from 1946 to the present. *Spring.*

FIL 3041 CAH-SVAD 3(3,0)
History of Animated Films I: PR: Cinema Studies, Art, Animation or Digital Media major. Evolution of animation from its roots in Art, Theatre, and Novelty Inventions to its rise as a cinematic force of popular storytelling. *Even Fall.*

FIL 3051 CAH-SVAD 3(3,0)
Avant-Garde Cinema: PR: Junior standing or C.I. History and aesthetics of Avant-Garde Cinema with an emphasis on post WWII North American films and filmmakers. *Spring.*

FIL 3070C CAH-SVAD 3(3,1)
Cinema in the 1920s: PR: FIL 3035C. Films of the 1920s as they pertain to the political, social, cultural, and artistic context of the period. *Occasional.*

FIL 3071C CAH-SVAD 3(3,1)
Cinema in the 1930s: PR: FIL 3035C. Films of the 1930s as they pertain to the political, social, cultural, and artistic context of the period. *Occasional.*

FIL 3072C CAH-SVAD 3(3,1)
Cinema in the 1940s and 1950s: PR: FIL 3035C. Films of the 1940s and 1950s as they pertain to the political, social, cultural, and artistic context of the period. *Occasional.*

FIL 3073C CAH-SVAD 3(3,1)
Cinema in the 1960s and 1970s: PR: FIL 3035C. Films of the 1960s and 1970s as they relate to the political, social, cultural, and artistic context of the period. *Occasional.*

FIL 3074C CAH-SVAD 3(3,1)
Cinema 1980s to the Present: PR: FIL 3035C. Films from the 1980s and onward as they pertain to the political, social, cultural, and artistic context of the period. *Occasional.*

FIL 3075C CAH-SVAD 3(3,1)
Film and Modernism I: PR: FIL 3035C and ARH 2050. Relation of film to artistic modernism centered on key common practices such as collage, projection, movement, serialization, superimposition, and simultaneity. *Spring.*

FIL 3076C CAH-SVAD 3(3,1)
Film and Modernism II: PR: FIL 3075C and ARH 2051. A continuation of Film and Modernism I. This course concentrates on specific instances of interaction between film and the other arts such as music, painting, photography, theatre, and video. *Fall.*

FIL 3102 CAH-SVAD 3(3,0)
Writing for Film and TV: PR: Junior standing, ENC 1102, and FIL 1007. Theories and process of screen writing for motion pictures and television. Students learn how to create stories and scripts for the entertainment marketplace. *Fall/Spring.*

FIL 3115 CAH-SVAD 3(3,0)
Short Script I: PR: FIL 2107 and Film BFA or Cinema Studies major, or C.I. Rudiments of writing the short script. Analysis of script models and examination of differences between long and short forms. Writing scripts for workshops. *Fall/Spring.*

FIL 3132 CAH-SVAD 3(3,0)
Short Script II: PR: FIL 3115 and Film BFA or World Cinema major, or C.I. Advanced writing of short scripts in preparation for Capstone 1 and 2 courses. *Spring.*

FIL 3304C CAH-SVAD 3(1,3)
Documentary Vision: PR: FIL 3363C. Styles and approaches to documentary filmmaking, with emphasis on making short, personal films. *Spring.*

FIL 3307 CAH-SVAD 3(3,0)
Docudrama: PR: FIL 2107 and Film BFA, World Cinema, or Cinema Studies major, or C.I. Techniques to dramatize real-life events and persons, with emphasis on representation, adaptation and ethics. *Occasional.*

FIL 3363C CAH-SVAD 3(3,1)
Film Documentary: PR: FIL 2030 and Film BFA or Cinema Studies major. The uses and analysis of the non-fiction film. *Fall/Spring.*

FIL 3379C CAH-SVAD 3(3,6)
Advanced Documentary Production: PR: FIL 3363C and FIL 3845, or C.I. Processes and principles of advanced documentary production to capture on-going reality based situations. *Occasional.*

FIL 3379C CAH-SVAD 3(3,6)
Honors Advanced Documentary Workshop: PR: ENC 1102H and Consent of Honors or C.I. Public history research and documentary production. Student-produced multimedia projects centered on local partnerships that explore the public history of Central Florida. With Honors content. *Occasional.*

FIL 3427C CAH-SVAD 3(2,4)
Introduction to Film Production: PR: or CR: FIL 2107 and Film BFA or World Cinema major. Introduction to production utilizing film equipment. Basic technical and aesthetic aspects of production. *Fall.*

FIL 3455C CAH-SVAD 6(2,4)
Film Landscapes: Story, Image and Production Design: PR: FIL 2423 or FIL 3427C, and FIL 2030. The use of landscape in film and its importance to the art of production design. *Occasional.*

FIL 3462C CAH-SVAD 3(3,1)
Cinematic Expression: PR: FIL 3803C. Cinematography using video format; study of fundamentals of motion-picture communication, film structure and storytelling. *Spring.*

FIL 3483 CAH-SVAD 3(3,0)
Directing the Actor for Film II: PR: FIL 2481. Characterization and scene study as it applies to directing the actor for film. *Occasional.*

FIL 3492C CAH-SVAD 3(3,1)
Performance in Film: PR: FIL 3035C. Study of the different traditions and forms of acting in film. *Occasional.*

FIL 3534 CAH-SVAD 3(3,0)
Sound Design for Film I: PR: FIL 3427C and Film BFA or C.I. Technical and aesthetic aspects of production and post-production sound recording, editing, and mixing for film. *Fall.*

FIL 3720C CAH-SVAD 3(2,4)
Introduction to Animation: PR: DIG 3951 and declared Character Animation specialization, or ART 3950 and declared Experimental Animation specialization, or a minimum grade of "B" (3.0) in DIG 4713 and declared Game Design specialization. Introductory computer graphic techniques utilizing microcomputer systems. Techniques include basic paint systems, color cycling and 2D animation. *Fall/Spring.*

FIL 3734C CAH-SVAD 3(2,4)
Intermediate Animation: PR: Experimental Animation and Character Animation majors only, FIL 3720C and DIG 4780C, and successful portfolio review or C.I. Focus on 3D computer modeling and animation systems. Hands-on exercise on the type of high-end animation systems used in the film industry. May be repeated for credit. *Fall/Spring.*

FIL 3803C CAH-SVAD 3(3,1)
Film Theory and Criticism I: PR: FIL 2107 and Film BFA, World Cinema, or Cinema Studies major. Major film theories to the Second World War Period. *Fall.*

FIL 3804C CAH-SVAD 3(3,1)
Film Theory and Criticism II: PR: FIL 2107 and Film BFA or Cinema Studies major. Major film theories from Second World War period to present. *Spring.*

FIL 3812C CAH-SVAD 3(3,1)
Film Theories and Practices: PR: PHI 2010. Concentration on the film theories of film-makers in relation to their own work and to the cinema generally. *Spring.*

FIL 3820 CAH-LANG 3(3,0)
Italian Film: This course attempts to stimulate and/or increase the interest of students in Italian cinema as an art form with the director playing the key role. Films by most outstanding Italian movie directors will be analyzed from a social, economic, and historical point of view. *Occasional.*

FIL 3822 CAH-LANG 3(3,0)
French Film: The study of French cinema as an art form and the key role of the director. Films are analyzed from structural, social, economical, and historical perspectives with attention to their relationship with French literature. Taught in English. *Occasional.*

FIL 3823 CAH-LANG 3(3,0)
German Film: PR: C.I. Exploration of the form and context of German film during different time periods in relation to other aspects of culture and to sociopolitical structures at the time. *Occasional.*

FIL 3824 CAH-SVAD 3(3,0)
Italian Neo-Realist Cinema: PR: FIL 3036 or FIL 3037, or C.I. Post-World War II period of the Italian cinema, with emphasis on the work of Antonioni, Visconti, Pasolini, Fellini, and Rossellini. *Occasional.*

FIL 3826 CAH-SVAD 3(3,0)
American Cinema: PR: Film BFA, World Cinema, or Cinema Studies major, or Cinema Studies minor. Lectures, films and forums designed to provide awareness of styles, images, and myths in cinema that influence or reflect our culture. *Spring.*

FIL 3831 CAH-SVAD 3(4,0)
Black Cinema: PR: Junior standing and ENC 1102. Independent black film movements; theory, aesthetics and criticism of African-American, African-Canadian and African-Caribbean cinema. *Fall.*

FIL 3841 CAH-SVAD 3(3,0)
French New Wave Cinema: PR: FIL 3036 or FIL 3037, or C.I. Post-World War II period of the French cinema, emphasizing the work of Renoir, Bresson, Godard, Rohmer, Resnais, and Rivette. *Occasional.*

FIL 3842 CAH-SVAD 3(3,0)
International Cinema: PR: or CR: FIL 3036 or FIL 3037, and Film BFA or Cinema Studies major. Post-World War II period of the international cinema, with emphasis on the cinemas of Europe and Asia. *Occasional.*

FIL 3845 CAH-SVAD 3(3,0)
World Cinema Traditions: PR: or CR: FIL 3036 or FIL 3037 and Film BFA, World Cinema, or Cinema Studies major. The relationship among film, history, and culture in selected Asian, African, Latin American, and Middle Eastern countries. *Fall/Spring.*

FIL 3847 CAH-SVAD 3(3,0)
Latin American Cinema: PR: or CR: FIL 3036 or FIL 3037 and Film BFA, World Cinema, or Cinema Studies major. Latin American films and film movements, historical and contemporary issues, social, and aesthetic concerns. *Spring.*

FIL 3850 CAH-SVAD 3(3,0)
Cinema Directors: PR: FIL 3803C and Film BFA, World Cinema, or Cinema Studies major, or C.I. Intensive study of the work of selected film-makers using multiple modes of criticism and author analysis to examine films. *Occasional.*

FIL 3852 CAH-SVAD 3(3,0)
Cinema Criticism Writing: PR: FIL 3036 or FIL 3037 and ENC 1102, FIL 2030, FIL 3803C. Modes of cinema criticism. *Occasional.*

FIL 3860C CAH-SVAD 3(3,1)
The Shot, Framing, Point of View: PR: FIL 3035C. Approaches to the shot, framing and point of view. *Occasional.*

FIL 3861C CAH-SVAD 3(3,1)
Film and Photography: PR: FIL 3076C. Historical and Cultural relationship between photography and film. *Occasional.*

FIL 3862C CAH-SVAD 3(3,1)
Narrative Structures in Film: PR: LIT 2110 and LIT 2120. Different structures of narrative in film and the ways in which narrative structures have been theorized and understood. *Fall.*

FIL 3865C CAH-SVAD 3(3,1)
Mise en scène and Theatricality: PR: THE 2000. Relationship between theatre and cinema with specific emphasis on mise en scène. *Spring.*

FIL 3870C CAH-SVAD 3(3,1)
Music, Natural Sounds and Dialogue in Film: PR: FIL 3035C. Study of relationship between music, natural sounds, dialogue, and moving images. *Occasional.*

FIL 3871 CAH-SVAD 3(3,0)
The American Film Artist: PR: FIL 2030. Analysis of a major American filmmaker's style, vision and works; how these evolved and their impact on film and the culture. May be repeated for credit. *Fall.*

FIL 3876C CAH-SVAD 3(3,1)
Experimental Cinema I: PR: FIL 3075C. A notion of cinema as an expansion of possibilities organized around formal, material, and conceptual aspects of film. *Fall/Spring.*

FIL 3877C CAH-SVAD 3(3,1)
Experimental Cinema II: PR: FIL 3876C. Concentration on specific aesthetic strategies of experimental film including those derived from the work of artists outside of the film related to treatments of reality and the perception of light. *Spring.*

FIL 3878C CAH-SVAD 3(3,1)
Color and Lighting in Cinema: PR: FIL 3035C. Ideas and practices related to lighting and color primarily in film but also painting, sculpture, photography and theatre. *Occasional.*

FIL 3880C CAH-SVAD 3(3,1)
Images of Women in Film: PR: FIL 2030. Images of women in film and how these images are shaped and structured in relation to circumstances of production, aesthetics, cultural, historical, and ideological factors. *Fall/Spring.*

FIL 3922 CAH-SVAD 1(1,1)
Film Colloquium: PR: Film majors only. A series of lectures, films and forums designed for students in the film program. The class is team taught by film faculty and guest speakers from the film industry. Graded S/U. May be repeated for credit. *Fall/Spring.*

FIL 4040 CAH-SVAD 3(3,0)
Animation Film History for Non Film Majors: PR: ENC 1102. Evolution of animation since World War II. *Fall/Spring.*

FIL 4042 CAH-SVAD 3(3,0)
History of Animated Films II: PR: FIL 3041, and Cinema Studies, Art, Animation or Digital Media major. Growth and diversification of American and international animation since 1945. *Spring.*

FIL 4057C CAH-SVAD 3(3,1)
Hollywood Cinema: PR: FIL 3035C. This course studies Hollywood cinema historically, culturally, stylistically, and organizationally. *Occasional.*

FIL 4103 CAH-SVAD 3(3,0)
Adaptation: PR: FIL 2107. The process of adapting scripts from other sources. The investigation of the legalities of adaptation, analysis of existing models, and written adaptations. *Occasional.*

FIL 4103H CAH-SVAD 3(3,0)
Honors Film Adaptation: PR: Consent of Honors. The process of adapting scripts from other sources. The investigation of the legalities of adaption, analysis of existing models, and written adaptations. With Honors content. *Occasional.*

FIL 4126C CAH-SVAD 3(2,2)
Genre Writing: PR: Film major, FIL 3803C. Advanced screenwriting practice in selected genres, including comedy, humor, western, crime, etc. *Occasional.*

FIL 4162C CAH-SVAD 3(2,3)
Feature/TV Writing I: PR: Film BFA, World Cinema, or Cinema Studies major, or Cinema Studies minor, and FIL 3115, or C.I. Writing workshop, examination of mythic storytelling, and ethics of scriptwriting. *Fall.*

FIL 4163C CAH-SVAD 3(2,3)
Feature/TV Writing II: PR: FIL 4162C. Advanced writing workshops, principles and methods of adaptation and reader's coverage. *Spring.*

FIL 4301C CAH-SVAD 3(1,3)
Documentary Workshop I: PR: FIL 3363C or C.I. Socially significant documentary projects for community groups, heritage organizations, non-profit agencies using film, video and digital media. *Fall.* M&S fee \$40.00

FIL 4302C CAH-SVAD 3(1,3)
Documentary Workshop II: PR: FIL 4301C or C.I. Advanced documentary projects for community groups, heritage organizations, non-profit agencies and NGOs using film, video and digital media. *Spring.*

FIL 4303C CAH-SVAD 3(3,1)
Film Fiction and the Document: PR: LIT 2110, FIL 3075C, and FIL 3076C. Study of the shifting boundary between fiction and documentary in film and in the other arts at the core of which is the notion of the document. *Fall.*

FIL 4434C CAH-SVAD 3(2,4)
Capstone I: PR: FIL 3132 and Film BFA or World Cinema major. Intensive tutorial guidance, instruction and evaluation of final film projects from initial concept through production. May be repeated for credit. *Fall.*

FIL 4436 CAH-SVAD 3(3,0)
Film Theory/Film Production: PR: Junior standing and FIL 1008 or C.I. Non-narrative filmmaking demonstrating the dynamic interplay between producing, viewing, reading and writing about images. *Odd Spring.*

FIL 4451 CAH-SVAD 3(3,0)
Design for Film: PR: FIL 3427C, or C.I. Analysis of visual structure of film. Specific problems in art direction. *Fall.*

FIL 4453C CAH-SVAD 4(3,2)
Special Problems in Film Design: PR: FIL 2423 or FIL 3427C and FIL 2030. A series of exercises in craft, techniques, and design for film production, including animation. *Occasional.*

FIL 4472C CAH-SVAD 3(2,4)
Cinematography II: PR: Film major, FIL 3427C, FIL 2461. Advanced principles and practices of cinematography. *Spring.*

FIL 4486C CAH-SVAD 3(3,1)
Directing for Film II: PR: Film BFA major and FIL 2480. Principles and practice in directing narrative and/or documentary motion pictures. *Fall.*

FIL 4487 CAH-SVAD 3(3,0)
Directing for Film III: PR: FIL 4486C. Advanced processes and techniques of film directing. *Spring.*

FIL 4535C CAH-SVAD 3(3,1)
Sound Design for Film II: PR: FIL 3534. An understanding of how production mixers bring the film director's vision to the screen. *Spring.*

FIL 4536 CAH-SVAD 3(3,0)
Sound Design III: PR: FIL 4535C. Advanced aspects of sound mixing and sound editing using advanced protocols and digital format. *Occasional.*

FIL 4566C CAH-SVAD 3(3,2)
Editing II: PR: FIL 2552. Theory, techniques and practices in picture editing. *Fall.* M&S fee \$5.00

FIL 4573C CAH-SVAD 3(1,3)
Capstone II: PR: FIL 4434C. Intensive tutorial guidance, instruction and evaluation of final film projects in post production. May be repeated for credit. *Spring.*

FIL 4602 CAH-SVAD 3(3,0)
Film Business: PR: FIL 2423 or FIL 3427C and junior standing and Film BFA, World Cinema, or Cinema Studies major. This is a seminar course taught by a professional in the film industry which deals with issues relating to the organization and production of motion pictures. *Spring.*

FIL 4647 CAH-SVAD 3(3,0)
Film Production Management: PR: ENC 1102 and Junior Standing, or C.I. Production, budgeting, script breakdown, construction of production boards, scheduling, location scouting, and crew procurement. *Spring.*

FIL 4661 CAH-SVAD 3(3,0)
The Film Producer: PR: FIL 2423 of FIL 3427C and junior standing and Film BFA, World Cinema, or Cinema Studies major. The role of the producer is examined in the context of theatrical film. *Spring.*

FIL 4735C CAH-SVAD 3(2,4)
Experimental Animation: PR: "C" (2.0) or better in FIL 3734C and a satisfactory portfolio review or C.I. Exploring individual creation of original narrative and non-narrative animation with sound through classic, current, innovative, and hybrid analog and digital methodology. May be repeated for credit. *Occasional.*

FIL 4740C CAH-SVAD 3(3,1)
Film and Digitalization: PR: FIL 3035C. A study of the new possibilities offered to film and thinking about film by digitalization. *Occasional.*

FIL 4750C CAH-SVAD 3(2,4)
Experimental Animation Workshop: PR: "C" (2.0) or better in FIL 3720C and a satisfactory portfolio review or C.I. Individual and group creation of original narrative and non-narrative animation with sound through classic, current, innovative, and hybrid analog and digital methodology. May be repeated for credit. *Occasional.*

FIL 4830 CAH-SVAD 3(3,0)
Motion Picture Genre: PR: FIL 2030. Analysis and evaluation of films, including their major genres, directors, styles, and periods. *Occasional.*

FIL 4830H CAH-SVAD 3(3,0)
Honors Motion Picture Genre: PR: Consent of Honors. Analysis and evaluation of films, including their major genres, directors, styles, and periods. With Honors content. *Occasional.*

FIL 4863C CAH-SVAD 3(3,1)
Montage: PR: FIL 3075C and FIL 3076C. A study of montage primarily but not exclusively in film. Emphasizing the way montage constructs continuities and disjunctions. The course is theoretical with practical exercises. *Fall.*

FIL 4934C CAH-SVAD 3(3,1)
Current Problems in Film and Culture: PR: FIL 3035C. Concentration on the most recent work in film studies concerned with film in its relation to cultural issues. *Occasional.*

FIL 4935C CAH-SVAD 3(3,1)
Current Problems in Film Theory: PR: FIL 3035C. Concentration on most recent work in film studies concerned with film theory. *Occasional.*

FIL 4939C CAH-SVAD 3(3,1)
Current Problems in Film History: PR: FIL 3035C. Concentration on the most recent work in film studies concerned with film history. *Occasional.*

FIL 5406 CAH-SVAD 3(3,0)
Theories of Film Production: PR: Film MFA student or C.I. Comparative analysis of motion picture production methodologies, including the studio industrial model, from a historical/critical perspective. *Spring.*

FIL 5414 CAH-SVAD 3(3,0)
Film Vision, Scope & Financing: PR: Acceptance to the MFA Film & Digital Media program. Exploration of the creative and business challenges filmmakers encounter when working on a screenplay, including financing, making, and distributing a digital, microbudget motion picture. *Spring.*

FIL 5419 CAH-SVAD 3(3,0)
Developing the Film Screenplay: PR: Admission to MFA Film & Digital Media-Entre Dig Cin track, or C.I. Development of an existing, original screenplay to fit the demands, limits, and possibilities of the microbudget, digital film paradigm. *Fall.*

FIL 5800 CAH-SVAD 3(3,0)
Research Methods in Film and Digital Media: PR: Admission to Film and Digital Media graduate program or C.I. Research methodology for the study and production of film and new media. *Spring.*

UCF Courses and Descriptions

FIN 5853 CAH-SVAD 3(3,0)
Independent Cinematic Forms: PR: Admission to MFA Film & Digital Media/Entre Dig Cin track, or C.I. Evolution of low budget independent cinematic films through the works of modern and classical filmmakers within and beyond the studio system. *Fall.*

FIN 5864 CAH-SVAD 3(3,0)
Ways of Seeing: The Expressive Potential of Film: PR: Admission to MFA Film and Digital Media or C.I. A study of multidisciplinary theories that relate to the practice of filmmaking. *Fall.*

FIN 5924 CAH-SVAD 1(1,0)
Graduate Seminar: PR: Admission to MFA Film & Digital Media/Entrepreneurial Digital Cinema track, or C.I. Strategies for a successful graduate experience, and forum for modes of inquiry, film technique, production and distribution issues; and thesis defense preparation. Graded S/U. May be used in the degree program a maximum of 6 times. *Fall.*

FIN 2100 BA-FIN 3(3,0)
Personal Finance and Investments: PR: Open to all students (majors, minors, and non-majors). An overview of personal and family financial planning. Topics include housing, investments, insurance, retirement planning, estate planning, financial services, consumer credit, and tax planning. *Fall/Spring.*

FIN 3303 BA-FIN 3(3,0)
Financial Markets: PR: FIN 3403 with a "C" (2.0) or better; open to majors or minors which require this course. The role of short and long-term financial markets and financial institutions in capital formation and allocation. Theories and mathematics of interest rates. *Fall/Spring.*

FIN 3403 BA-FIN 3(3,0)
Business Finance: PR: ACG 2021 and ECO 2013 or ECO 2023 with a grade of "C" (2.0) or better. With the balance sheet as a reference point, this course provides an introduction and overview of the acquisition, financing, and management of business assets. *Fall/Spring.*

FIN 3403H BA-FIN 3(3,0)
Honors Business Finance: PR: ACG 2021 and ECO 2013 or ECO 2023 with a grade of "C" (2.0) or better and consent of Honors. Open to University honors students and other students participating in the honors program. With the balance sheet as a reference point, this course provides an introduction and overview of the acquisition, financing, and management of business assets. With honors level content. *Occasional.*

FIN 3414 BA-FIN 3(3,0)
Intermediate Corporate Finance: PR: FIN 3403 with a "B" (3.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. In-depth study of the principles of corporate finance. Investment, financing, and capital decisions are examined. *Fall/Spring.*

FIN 3461 BA-FIN 3(3,0)
Financial Statement Analysis: PR: FIN 3403 with a "B" (3.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Understanding and interpreting financial statement data for business decisions and valuations. *Fall/Spring.*

FIN 4243 BA-FIN 3(3,0)
Debt and Money Markets: PR: FIN 3403 with a "B" (3.0) or better. Open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Course examines debt, money market investments, market structure, trading and valuation. Risk management introduced. Roles of banking systems, and financial institutions in fixed income markets. *Fall/Spring.*

FIN 4313 BA-FIN 3(3,0)
Management of Financial Institutions: PR: FIN 3303 and FIN 3403, each with a "C" (2.0) or better; open to majors or minors which require this course. Analysis of management policies of financial institutions, including assets liability, and capital management. The economics and regulatory influence on competition is considered. *Occasional.*

FIN 4324 BA-FIN 3(3,0)
Commercial Bank Management: PR: FIN 4243 with a "C" (2.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Analysis of the intersections of commercial banking policies and an analysis of current approaches to managing specific bank products. *Fall/Spring.*

FIN 4424 BA-FIN 3(3,0)
Advanced Topics in Financial Management: PR: FIN 3414, FIN 4243 and FIN 4504 each with a "C" (2.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Advanced study in financial management. Topics include capital budgeting, financial structure, and capital decisions. Case studies used extensively. *Fall/Spring.*

FIN 4453 BA-FIN 3(3,0)
Financial Models: PR: FIN 4243 and FIN 4504, each with a "C" (2.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Mathematical models applied specifically to financial problems, including those models suitable for representation and solutions on computers. *Fall/Spring.*

FIN 4504 BA-FIN 3(3,0)
Equity and Capital Markets: PR: FIN 3403 with a "B" (3.0) or better; open to majors or minors which require this course. Course examines equity investments, including market structure, trading, analysis, and valuation. Theories of efficient markets and rational investors are examined. Futures and options are introduced. *Fall/Spring.*

FIN 4514 BA-FIN 3(3,0)
Portfolio Analysis and Management: PR: FIN 4504 with a "C" (2.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Portfolio and capital market theory in the determination of rational investment policies. Risk analysis, portfolio analysis, and evaluation techniques. *Fall/Spring.*

FIN 4533 BA-FIN 3(3,0)
Financial Derivatives: PR: FIN 4504 or FIN 4243, each with a "C" (2.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Options, futures, forwards, and other derivative contracts. Investments traded in these markets are examined. Pricing and hedging are considered. *Fall/Spring.*

FIN 4560C BA-FIN 4(3,1)
Applied Portfolio Management 1: PR: Finance major, FIN 3403 and FIN 4504, each with a "C" (2.0) or better, and C.I. For UCF Student Managed Portfolio program participants. Provides detailed, rigorous analyses of equity portfolio management topics, including risk/return, valuation, forecasting, portfolio construction, and performance appraisal. *Occasional.*

FIN 4561C BA-FIN 4(3,1)
Applied Portfolio Management 2: PR: Finance major, FIN 4560C with a "C" (2.0) or better, and C.I. For UCF Student Managed Portfolio program participants. Rigorous coverage of advanced portfolio management topics, including uses of derivatives, tax issues, and style investing. *Occasional.*

FIN 4604 BA-FIN 3(3,0)
International Financial Management: PR: FIN 3403 with a "B" (3.0) or better; open to finance majors and minors, or with instructor consent which will be based on meeting qualifications for finance majors and minors. Analysis of the foreign financial methods and investment, currency futures market, capital budgeting, cash management, examination of Eurocurrency market and international bond markets. *Fall/Spring.*

FIN 4730 BA-FIN 3(3,0)
Senior Financial Consulting I: PR: Finance major, FIN 3403 and FIN 3303, each with a "C" (2.0) or better; CR: FIN 3414, FIN 4453. Project management in a collaborative, interdisciplinary team environment. Incorporates financial problem solving, design and consulting in projects for major corporations. Part 1 of a two course sequence. Students must register for both semesters. *Occasional.*

FIN 4731 BA-FIN 3(3,0)
Senior Financial Consulting II: PR: Finance major, FIN 4730 with a "C" (2.0) or better. Project management in a collaborative, interdisciplinary team environment. Incorporates financial problem solving, design, and consulting in projects for major corporations. Part 2 of two semester course sequence. Students must register for both semesters. *Occasional.*

FIN 4941 BA-FIN 3(0,3)
Finance Internship: PR: Finance major with at least 6 hours of completed coursework in finance, 3.0 Finance major GPA, minimum overall GPA of 2.75 and consent of internship coordinator. Supervised finance work experience in a pre-approved sponsoring organization. See department for information and application. Graded S/U. *Fall/Spring.*

FLE 3160 ED-TL&L 3(3,0)
Education and Culture/Language Diversity: PR: Admission to major, overall 2.5 GPA, 3.0 GPA in major, and C.I. A cross-cultural field experience which includes cultural and language immersion. Theoretical and applied knowledge of culture and language. diversity. *Occasional.*

FLE 4314 ED-TL&L 3(3,0)
Foreign Language Teaching in Elementary Schools: Methods of planning and teaching foreign languages in the elementary school. The emphasis is on teaching communicatively and on integrating culture in the K-6 classroom. *Occasional.*

FLE 4333 ED-TL&L 3(3,0)
Foreign Language Teaching in the Secondary School: PR: EDG 4410, proficiency in the target language and English. Methods of teaching foreign languages at the secondary level within a communicative framework. Current instructional techniques in listening, speaking, reading, and writing skills, testing, error correction. May be repeated for credit. *Occasional.*

FLE 5331 ED-TL&L 3(3,0)
Foreign Language Methods at the Secondary Level: PR: Graduate standing or C.I. Methods of planning and teaching foreign language at the secondary level. The emphasis is on teaching communicatively and on integrating culture in the 6-12 classroom. *Occasional.*

FLE 5335 ED-TL&L 3(3,0)
Foreign Language Methods at the Elementary Level: PR: Graduate standing or C.I. Methods of planning and teaching foreign language at the elementary level. The emphasis is on teaching communicatively and on integrating culture in the K-6 classroom. May be repeated for credit. *Occasional.*

FRE 1120C CAH-LANG 4(3,1)
Elementary French Language and Civilization I: Introduces the student to French culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in the language. *Fall/Spring.*

FRE 1121C CAH-LANG 4(3,1)
Elementary French Language and Civilization II: PR: FRE 1120C or equivalent. Continuation of FRE 1120C. *Fall/Spring.*

FRE 2200 CAH-LANG 3(3,1)
Intermediate French Language and Civilization I: PR: FRE 1121C or equivalent. Development of language skills and cultural knowledge at the intermediate level. *Fall/Spring.*

FRE 2201 CAH-LANG 3(3,1)
Intermediate French Language and Civilization II: PR: FRE 2200 or equivalent. Continuation of FRE 2200 with emphasis on French civilization. *Fall/Spring.*

FRE 2270 CAH-LANG 8(16,10)
Intermediate French Study Abroad: PR: Elementary French. Intermediate French language and civilization taught in the native environment. *Occasional.*

FRE 3300 CAH-LANG 3(3,0)
French Grammar: PR: FRE 2201 or equivalent. An in-depth review of the structures of French for students who intend to take French literature courses. *Fall.*

UCF Courses and Descriptions

FRE 3410 CAH-LANG 3(3,0)
Advanced Oral French Abroad: PR: FRE 2200, FRE 2201 or equivalent. Designed for students participating in the Study Abroad Program in France. Students will be immersed throughout the term speaking French. May be repeated for credit. *Occasional.*

FRE 3420 CAH-LANG 3(3,0)
French Composition: PR: FRE 2201 or equivalent. Development of skills in composition. *Fall.*

FRE 3423 CAH-LANG 3(3,0)
Advanced French Grammar Abroad: PR: FRE 2200, FRE 2201 or equivalent. Students will be immersed throughout the term applying grammatical concepts as they relate to written expression in order to enhance oral expression. May be repeated for credit. *Occasional.*

FRE 3440 CAH-LANG 3(3,0)
Business French I: PR: Three semesters of French language. Introduces vocabulary and terminology in various French business activities, as well as standards, procedures, and practices of the French business world. *Occasional.*

FRE 3441 CAH-LANG 3(3,0)
Business French II: PR: FRE 3440 or C.I. Introduction to French business language and practices. *Occasional.*

FRE 3760 CAH-LANG 3(3,0)
Advanced French Oral Communication: PR: FRE 2201 or equivalent. Vocabulary building with systematic training in diction and locution. Speeches and oral presentations as well as production and delivery of real-life dialogues. *Spring.*

FRE 3780 CAH-LANG 3(3,0)
French Phonetics and Diction: French phonology, with emphasis on phonic groupings. *Spring.*

FRE 3954 CAH-LANG 6(6,0)
Study Abroad in the Caribbean: PR: FRE 2201 or equivalent. Travel through Caribbean islands, studying the diversity within the Creole cultures. May be repeated for credit. *Occasional.*

FRE 4421 CAH-LANG 3(3,0)
Advanced French Conversation: PR: FRE 3760. Advanced conversation on directed topics from various disciplines: literature, art, psychology, philosophy, music, business, and the sciences. *Fall.*

FRE 4422 CAH-LANG 3(3,0)
Advanced French Composition: PR: FRE 3420. Readings and written imitations of modern literary styles in the form of themes, sketches, poems, and original stories. *Spring.*

FRE 4471 CAH-LANG 6(6,0)
Advanced French Cultural Studies Abroad: PR: FRE 2201 or equivalent, or C.I. Students will develop strong conversational skills at the third year level while studying French culture abroad. May be repeated for credit. *Occasional.*

FRE 4500 CAH-LANG 3(3,0)
French Civilization and Culture: PR: FRE 3420. A survey analyzing development of key elements of French life: its historical, artistic, intellectual, scientific, and spiritual contributions to the world via readings, lectures, films, and other media. Conducted in French. *Occasional.*

FRE 4503 CAH-LANG 2(2,0)
Quebecois Civilization: PR: 2 years of college level French or equivalent. An introduction to the main epochs and events in the history of the French civilization in North America with particular emphasis on Quebec. *Occasional.*

FRE 4782 CAH-LANG 2(2,0)
Advanced French Phonetics and Diction: PR: 2 years of college level French or equivalent. Intensive exercises in French phonetics and diction with both prose and poetry with particular emphasis on difficulties for speakers of English. *Occasional.*

FRE 4950C CAH-LANG 0(0,0)
French Portfolio: PR: French BA, Senior Standing and C.I. Portfolio application for French majors. The portfolio is part of the exit exam and is prepared during tenure at UCF. *Fall, Spring.*

FRT 3140 CAH-LANG 3(3,0)
French and Francophone Literary Masterworks in Translation: PR: FRE 2200. May include survey covering texts from the Middle Ages to the present or may focus on a particular period, genre, or topic. *Occasional.*

FRT 3562 CAH-LANG 3(3,0)
French Contemporary Pop Culture: PR: FRE 2200. Examination of Modern France and its culture, with emphasis on contemporary trends in language, music, fashion, fiction, press, cyberculture, street arts, and food. *Occasional.*

FRT 4421 CAH-LANG 3(3,0)
French Medieval Literature and Culture: PR: FRW 3810. Provides students with the skills needed to read, discuss, and write about French Literature and culture of medieval France. *Occasional.*

FRW 3100 CAH-LANG 3(3,0)
Survey of French Literature I: PR: FRE 2201 or equivalent. Main literary currents and works from the Middle Ages through the 18th century. *Fall.*

FRW 3101 CAH-LANG 3(3,0)
Survey of French Literature II: PR: FRE 2201 or equivalent. Main literary currents and works of the 19th and 20th centuries. *Spring.*

FRW 3370 CAH-LANG 3(3,0)
Short Stories of 18th, 19th and 20th Centuries: PR: FRE 2201 or equivalent. Selected readings designed to increase reading speed and develop analytical abilities. Authors include: Voltaire, Maupassant, Flaubert, Camus, and others. *Occasional.*

FRW 3740 CAH-LANG 3(3,0)
The French Literature of Canada: PR: FRE 2201 or equivalent. A survey of the French literature of Canada from the late 19th century to the present, with particular emphasis on the novel and short story. *Occasional.*

FRW 3752 CAH-LANG 3(3,0)
French Caribbean Literature: PR: FRE 2201 or equivalent. Literature of the French speaking Caribbean from colonial times to the present, in French. *Occasional.*

FRW 3760 CAH-LANG 3(3,0)
Creole Identity in the French-Speaking World: PR: FRE 2201 or equivalent. Creole literatures and cultures of the Francophone world. *Spring.*

FRW 3770 CAH-LANG 3(3,0)
Francophone Literature: PR: FRE 2201. The literature of the Francophone world. Students will read, analyze and discuss literary works written in French. *Even Spring.*

FRW 3810 CAH-LANG 3(3,0)
French Literary Texts and Analysis: PR: FRE 2201. French Literature and literary analysis from the Middle Ages to the present. Course is conducted in French. *Fall.*

FRW 4281 CAH-LANG 3(3,0)
20th Century French Novels: PR: FRW 3100 or FRW 3101 or equivalent. Contemporary French Novel. Will focus on post-war authors, both traditional and avant-garde, such as Bazin, Beckett, Butor, Camus, Mauriac, Malraux and Sarraute. *Occasional.*

FRW 4310 CAH-LANG 3(3,0)
Seventeenth Century French Theatre: PR: FRW 3100. Corneille, Racine, and Moliere. A study of the lives and principal works of the authors. *Occasional.*

FRW 4324 CAH-LANG 3(3,0)
20th Century French Drama: PR: FRW 3100 or FRW 3101 or equivalent, or C.I. Concentration on traditional and avant-garde theater after WWII, such as the works of Beckett, Camus, Claudel, Giraudoux, Ionesco, and Sartre; different literary approaches will also be used. *Occasional.*

FRW 4380 CAH-LANG 3(3,0)
Early Modern French Fairy Tales: PR: FRW 3100 and FRW 3101. Classic French fairy tale tradition within the context of 21st century American fairy tale tradition. *Odd Spring.*

FRW 4440 CAH-LANG 3(3,0)
French Literature of the Eighteenth Century: PR: FRW 3100. The philosophical movement: Montesquieu, Vauvenargues, Voltaire, Diderot, Buffon. *Odd Fall.*

FRW 4532 CAH-LANG 3(3,0)
French Romanticism: PR: FRW 3100. Great poets and dramatists of the Romantic Movement: Hugo, Lamartine, Vigny, Musset, and others. *Occasional.*

FRW 4552 CAH-LANG 3(3,0)
Nineteenth Century French Literature: PR: FRW 3101. Realism and naturalism. *Occasional.*

FRW 4820 CAH-LANG 3(3,0)
Stylistics: PR: FRE 3420 or equivalent. An intense study of textual criticism. An examination of the relationship between language and literature; explications and linguistic analysis of literary texts. *Occasional.*

FSS 2221C RCHM-FOOD&LODG 4(3,3)
Techniques of Food Preparation: PR: HFT 1000. Basic principles and practice of food and beverage preparation, service, and menu development. *Fall, Spring.* M&S fee \$70.00

FSS 2284C RCHM-FOOD&LODG 4(3,3)
Food Preparation for Catered Events: PR: HFT 1000. Basic principles and practice of food preparation and menu development for catered events. Methods and procedures for on and off premise catered events. *Fall, Spring.* M&S fee \$70.00

FSS 3008 RCHM-FOOD&LODG 3(3,0)
Culture and Cuisine: PR: HFT 1000 and FSS 2221C. The major historical and geographical developments that have affected the creation of the cuisines of the world. *Occasional.* M&S fee \$35.00

FSS 3124 RCHM-FOOD&LODG 3(3,0)
Supply and Procurement Management: PR: HFT 1000, FSS 2221C, HFT 3263 and Junior standing. The purchasing procedures, specifications, and controls of food and related products in the hospitality industry. *Fall, Spring.* M&S fee \$45.00

FSS 3232C RCHM-FOOD&LODG 3(1,3)
Foodservice Operations Management: PR: HFT 1000 and FSS 2221C. An integrated approach that combines theory and application in providing students the opportunity to practice their skills in menu planning, food preparation, and customer service. Laboratory class. *Occasional.* M&S fee \$70.00

FSS 4135 RCHM-FOOD&LODG 3(3,0)
Corporate Contract and Managed Services Organizations: PR: HFT 3263 and Junior standing. The unique characteristics of managed services including contracting, commodity purchasing, pricing, and revenue management. *Occasional.*

FSS 4286C RCHM-FOOD&LODG 3(3,1)
Catering and Banquet Organization: PR: HFT 1000, FSS 2221C, HFT 3263, and Junior standing. Methods and procedures for successful on and off premise catering functions. Emphasis on food and beverage preparation, menu planning, service and sales techniques. Laboratory class. *Occasional.* M&S fee \$70.00

GEA 3403 CAH-LAS 3(3,0)
Human Geography of Latin America: PR: ENC 1102 or C.I. Populations, hemispheric interdependence, and international development of Latin America. *Fall.*

GEA 3404 CAH-LAS 3(3,0)
Migration Trends in Latin America: PR: ENC 1102 or C.I. Migration trends in Latin America and the impact that migration has had on the Americas. *Spring.*

GEA 3455 CAH-LAS 3(3,0)
Geography of Brazil: PR: ENC 1101 or C.I. Geophysical, cultural, economic, and social characteristics and processes of Brazil. *Fall.*

GEA 4405 CAH-LAS 3(3,0)
Geography of Latin America: PR: ENC 1102 or C.I. Geography of Latin America and the Caribbean, including geophysical, cultural, economic, and social characteristics and processes. *Occasional.*

UCF Courses and Descriptions

GEA 4405H CAH-LAS 3(3,0)
Honors Geography of Latin America: PR: ENC 1102H or equivalent credit and consent of Honors. Geography of Latin America and the Caribbean, including geophysical, cultural, economic, and social characteristics and processes. With honors content. *Spring.*

GEB 2350 BA-MAR 3(3,0)
Foundations of Business: Introduction to the U.S. business system and the role it plays in a global economy. *Fall.*

GEB 3003 BA-MAN 1(1,0)
Career Research & Planning: PR: Admission to the College of Business. Designed to provide a basic understanding of the importance of career professionalism in today's competitive business environment. The course focuses on self-awareness and career research and planning. *Fall/Spring.*

GEB 3005 BA-MAN 1(1,0)
Career Search Strategy: PR: GEB 3003. Provides a basic understanding of the importance of career professionalism in today's competitive business environment. The course focuses on personal branding/marketing and career search strategies. *Fall/Spring.*

GEB 3031 BA-MAN 3(3,0)
Integrated Business Foundations: PR: Admission to the Integrated Business major. Students apply and refine critical skills such as teamwork, negotiation, ethics, and communication that enhance career success. Emphasis on small to medium size firms. *Fall/Spring.*

GEB 3031L BA-MAN 1(0,2)
Cornerstone Lab: Professional Skills for Business: PR: CBA major/minor or approved major/minor CR: GEB 3031. Students apply concepts and principles introduced in GEB 3031 and related skills essential to academic and professional success. *Fall/Spring.*

GEB 3375 BA-FIN 3(3,0)
Introduction to International Business: PR: Junior standing and ACG 2071, ECO 2013 and ECO 2023, each with a "C" (2.0) or better. Understanding the interdependence of globalized world economy and similarities between domestic and international business domains. *Fall/Spring.*

GEB 3375H BA-FIN 3(3,0)
Honors Introduction to International Business: PR: Junior standing, permission of Honors, ACG 2071, ECO 2013, and ECO 2023, each with a "C" (2.0) or better. Understanding the interdependence of globalized world economy and similarities between domestic and international business domains. Same as GEB 3375 with honors level content. *Occasional.*

GEB 4004 BA-MAN 1(1,0)
Executing Your Career Plan: PR: GEB 4223. Coaches provide recommendations throughout the career search process, and help implement the career plan developed during the previous three career development courses. *Fall/Spring.*

GEB 4104 BA-BA 3(3,0)
Small Business Development: PR: Admission to the Integrated Business major. Students will learn how to plan, open and manage a small business. Topics include franchising, family businesses, buying a business, and independent contracting. *Fall/Spring.*

GEB 4223 BA-MAN 1(1,0)
Business Interviewing Techniques: PR: GEB 3005. Develops each student's ability to make a persuasive one-on-one or small group presentation, that is designed to invoke action by either the individual or small group. *Fall/Spring.*

GEB 4374 BA-FIN 3(3,0)
International Negotiations and Transactions: PR: Finance major, Junior standing and admission to CBA. Focuses on providing an understanding of the concepts and skills required for international negotiations and transactions. *Occasional.*

GEB 4435 BA-MAN 3(3,0)
Moral Foundations of Business: PR: MAN 3025 or C.I. Ethical foundations of business and the relationship between markets and morality through a comparative analysis of capitalist and socialist ideals. *Occasional.*

GEB 4513 BA-MAN 3(3,0)
Applied Business Technologies: PR: Admission to the Integrated Business major. Focuses on a firm's ability to recognize, evaluate and integrate technological developments to create value, solve problems, and gain competitive advantages. *Fall/Spring.*

GEB 4522 BA-BA 3(3,0)
Data Driven Decision Making: PR: Admission to the Integrated Business major. Using public and private data to make informed business decisions. Includes issue identification, feasible solution generation, optimal decision selection, performance tracking, and persuasive writing. *Fall/Spring.*

GEB 4824 BA-BA 3(3,0)
Business Law in Sport & Entertainment: PR: SPB 3003 with a "C" (2.0) or better. Understanding of the legal issues involved in the operation and management of organizations in the sport and entertainment industries. *Occasional.*

GEB 4934 BA-BA 0(0,1)
Current Topics in Business Administration: PR: Admission to the College of Business, and C.I. Guest lectures discussing current topics that impact business in the Central Florida, state, national, and international business environments. *Fall/Spring.*

GEB 5516 BA-MAN 3(3,0)
Technological Entrepreneurship: PR: Graduate standing. Focus of the course is on identification, evaluation and commercialization of new technologies. Emphasis will be placed on the legal, financial and strategy aspects of technology transfer and development. *Occasional.*

GEB 5941 BA-BA 1.5(1.5,0)
Professional Business Practicum: PR: Acceptance in the graduate program. The practicum is to provide a professional business work experience for students entering the MBA program without such experience. *Occasional.*

GEO 1200 COS-POLS 3(3,0)
Physical Geography: Basic physical elements of geography, including climate, landforms, soils, natural vegetation, minerals, and their integrated patterns of world distribution. *Fall/Spring.*

GEO 2370 COS-POLS 3(3,0)
Resources Geography: Analysis of basic principles and problems associated with development, use, conservation, and management of natural resources, with special emphasis on the United States. *Fall/Spring.*

GEO 3471 COS-POLS 3(3,0)
World Political Geography: PR: ENC 1102 or POS 2041 or C.I. Analysis of factors which affect power relations among nations, including area, location, political styles, ethnic divisions, and the politics of energy. *Fall/Spring.*

GER 1120C CAH-LANG 4(3,1)
Elementary German Language and Civilization I: Introduces the student to German culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. *Fall/Spring.*

GER 1120C CAH-LANG 4(4,1)
Honors Elementary German Language and Civilization I: PR: Permission of Honors. Introduces the student to German culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. Honors level content. *Occasional.*

GER 1121C CAH-LANG 4(4,1)
Honors Elementary German Language and Civilization II: PR: GER 1120C or equivalent and permission of Honors. Continuation of GER 1120C, with honors-level content. *Occasional.*

GER 1121C CAH-LANG 4(3,1)
Elementary German Language and Civilization II: PR: GER 1120C or equivalent. Continuation of GER 1120C. *Fall/Spring.*

GER 2200 CAH-LANG 3(3,1)
Intermediate German Language and Civilization I: PR: GER 1121C or equivalent. Development of language skills and cultural knowledge at the intermediate level. *Fall/Spring.*

GER 2201 CAH-LANG 3(3,1)
Intermediate German Language and Civilization II: PR: GER 2200 or equivalent. Continuation of GER 2200 with emphasis on German civilization. *Spring.*

GER 2210 CAH-LANG 3(3,0)
Intensive German Conversation: PR: GER 1121C or C.I. Practical use of the language, leading toward fluency and correctness in speaking. *Occasional.*

GER 2240 CAH-LANG 3(3,0)
German Conversation: PR: GER 2201 or equivalent. Development of skills in conversation and comprehension through practice. *Occasional.*

GER 2270 CAH-LANG 6(6,0)
Intermediate German Study Abroad: PR: GER 1121C or equivalent. Intermediate German language and culture taught in the native environment. *Occasional.*

GER 2271 CAH-LANG 2(2,0)
Modern German Civilization Abroad I: PR: One year of College-level German. Key elements of German life: its artistic, intellectual, scientific, and spiritual contributions to the world via guest lecturers, readings, films, and other media. In German. *Occasional.*

GER 3102 CAH-LANG 3(3,0)
Germany - Past to Present: PR: GER 3760 or GER 3420 or equivalent. Cultural development that shaped modern Germany. Students will read and discuss selected texts from different literary periods and view the influences they had on culture and daily life. Course conducted in German. *Occasional.*

GER 3272 CAH-LANG 2(2,0)
Modern German Civilization Abroad II: PR: GER 2201 or equivalent. Key elements of German life: its artistic, intellectual, scientific, and spiritual contributions to the world via guest lecturers, readings, films, and other media. In German. *Occasional.*

GER 3420 CAH-LANG 3(3,0)
Intensive German Composition: PR: GER 2201 or equivalent. Development of skills in composition. *Occasional.*

GER 3440 CAH-LANG 3(3,0)
Business German I: PR: GER 2200. Introduction to German business language and practices. *Occasional.*

GER 3441 CAH-LANG 3(3,0)
Business German II: PR: GER 3440. Continuation of Business German I. *Occasional.*

GER 3470 CAH-LANG 6(6,0)
Advanced German Study Abroad: PR: GER 2201. Advanced German grammar in the context of conversation and composition taught in the native environment. *Occasional.*

GER 3760 CAH-LANG 3(3,0)
Advanced German Oral Communication: PR: GER 2201 or equivalent. Vocabulary building with systematic training in diction and locution. Speeches and oral presentations as well as production and delivery of real-life dialogues. *Even Fall.*

GER 3780 CAH-LANG 3(3,0)
German Phonetics and Diction: PR: GER 2240. The fundamental principles of German pronunciation. *Occasional.*

GER 4510 CAH-LANG 3(3,0)
Life and Culture in Nazi Germany: PR: C.I. Confrontation with the development of national socialist ideas and their realization in everyday life and culture. Given in German. *Occasional.*

GER 4520 CAH-LANG 3(3,0)
Modern Germany: PR: Given in German. An introduction to the history of postwar Germany from the two Germanies to unification and today's Germany. *Occasional.*

UCF Courses and Descriptions

GEW 3100 CAH-LANG 3(3,0)
Survey of German Literature I: PR: GER 2201 or equivalent. Main literary currents and works from the Middle Ages through 19th Century Romanticism. *Occasional.*

GEW 3101 CAH-LANG 3(3,0)
Survey of German Literature II: PR: GER 2201 or equivalent. Main literary currents and works from 19th Century Realism to the present. *Occasional.*

GEW 3370 CAH-LANG 3(3,0)
Short Story: PR: GER 2201 or equivalent. German short prose works of the 19th and 20th centuries. *Occasional.*

GEW 3480 CAH-LANG 3(3,0)
German Post-War Literature: PR: GER 2201. This course examines the works of German, Austrian and Swiss writers after World War II. *Occasional.*

GEW 4482 CAH-LANG 3(3,0)
German Children's Literature: PR: GER 2200. A look into the history of German children's literature with a concentration on works after World War II. *Occasional.*

GEW 4531 CAH-LANG 3(3,0)
The Age of Goethe and Schiller: PR: GER 2201. Selected texts of Goethe and Schiller are examined, with particular attention to their relationship to both German classicism and German romanticism. *Occasional.*

GEY 3001 HPA-SOWK 3(3,0)
Gerontology: An Interdisciplinary Overview: PR: Junior standing or C.I. Study of aging from an interdisciplinary perspective that bridges social and behavioral sciences, nursing, social work, allied health, and natural sciences. May be repeated for credit. *Fall.*

GEY 5007 CON-NURS 3(3,0)
Women and Healthy Aging: PR: Graduate standing or senior undergraduate. The examination of the health promotion opportunities and bio-psycho-social challenges of women as they age. *Spring.*

GEY 5600 ED-CFCS 3(3,0)
Physiology of Aging: PR: BSC 2010C or PCB 3703C or APK 4110C or equivalent. The purpose of this course is to develop the student's understanding of the effects of human aging on various body systems. *Occasional.*

GEY 5648 HPA-SOWK 3(3,0)
Gerontology: An Interdisciplinary Approach: PR: Graduate status or senior standing or C.I. The study of aging will be presented from an interdisciplinary and multidisciplinary approach spanning the social sciences and health. *Occasional.*

GIS 3043C UGST-INTERDISC 3(2,2)
GIS for Environmental Studies: PR: CGS 1060C and BSC 2010C, or C.I. Geographic Information Systems (GIS) technology for environmental analysis. GIS theory with training using ArcGIS, including environmental analysis and facility siting studies. *Odd Fall.*

GIS 4301C UGST-INTERDISC 4(2,2)
Advanced GIS Applications in Environmental Studies: PR: GIS 3043C. GIS analysis techniques used in environmental science, including raster overlay site suitability modeling, least-cost optimum paths, 3D digital elevation models, network routing and geostatistical analysis. *Occasional.*

GLY 1030 COS-CHEM 3(3,0)
Geology and its Applications: Geologic principles, applications, and hazards including: gemstones, rock cycle, moving continents, mountain building, metal ores, fossil fuels, groundwater, sinkholes, beach erosion, landslides, earthquakes, tidal waves, volcanism. *Fall, Spring.*

GLY 2038 COS-PHYS 3(3,0)
Environmental Geoscience: Environmental issues affecting Earth's crust, including earthquakes, volcanoes, major storms, water-supply problems, resource depletion, waste disposal, land-use planning, flooding, sea-level rise, coastal erosion, and climate change. *Fall.*

GRA 2101C CAH-SVAD 3(2,4)
Honors Introduction to Computer Art: PR: ART 2823 and Consent of Honors. The principles underlying the generation and display of graphical pictures by computer. Topics include graphical software packages and graphics systems. With Honors content. *Occasional.* M&S fee \$15.00

GRA 2101C CAH-SVAD 3(2,4)
Introduction to Computer Art: PR: ART 2823 or C.I. Priority given to students whose major requires this course. The principles underlying the generation and display of graphical pictures by computer. Topics include graphical software packages and graphics systems. *Fall, Spring.*

GRA 2151C CAH-SVAD 3(2,4)
Illustration: PR: ART 2201C and ART 2300C. Pictorial and representational illustration using various media and techniques. *Fall, Spring.*

GRA 3102C CAH-SVAD 3(2,4)
Intermediate Graphic Design I: PR: Acceptance in Graphic Design Specialization or C.I. CR: GRA 3950. Techniques and methods for studio projects used in the graphic design industry. *Fall.* M&S fee \$45.00

GRA 3112C CAH-SVAD 3(2,4)
Intermediate Graphic Design II: PR: GRA 3102C or C.I. Further development of studio techniques and problems in graphic design with emphasis on digital prepress. *Spring.* M&S fee \$43.00

GRA 3202C CAH-SVAD 3(2,4)
Type & Design: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C. A survey of type, calligraphy and letter forms and their appropriate use as subject matter for graphic design and publication. *Fall, Odd Spring.* M&S fee \$15.00

GRA 3747C CAH-SVAD 3(2,4)
Intermediate Illustration I: PR: ART 2201C, ART 2203C, ART 2301C, and successful portfolio review. Techniques, production processes, media and materials used to create illustration for works utilizing sequential visual narrative. *Fall.* M&S fee \$45.00

GRA 3803C CAH-SVAD 3(2,4)
Intermediate Computer Graphic Design: PR: GRA 3102C or declared Web Design Track, ART 2201C, ART 2300C, and DIG 3716C. Graphic design techniques and methods relating to web design and development. *Fall, Spring.*

GRA 3950 CAH-SVAD 0(0,0)
Graphic Design Portfolio Application: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, GRA 2101C, ARH 2050, ARH 2051. Portfolio application for students entering the SVAD Graphic Design program. Graded S/U. *Spring.*

GRA 4154C CAH-SVAD 3(2,4)
Advanced Illustration: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, and a satisfactory portfolio review or C.I. Advanced techniques in the utilization of digital platforms to emulate traditional media. May be used in the degree program a maximum of 3 times. *Spring.* M&S fee \$45.00

GRA 4196C CAH-SVAD 3(2,4)
Advanced Graphic Design: PR: GRA 3112C or C.I. Practical studio problems, with emphasis on organization of visual design elements. *Fall.* M&S fee \$43.00

GRA 4197C CAH-SVAD 3(2,4)
Special Problems in Graphic Design: PR: GRA 4196C. Capstone course in Graphic Design emphasizing the development of a professional portfolio. May be used in the degree program a maximum of 2 times. *Spring.* M&S fee \$45.00

GRA 4802C CAH-SVAD 3(2,4)
Advanced Computer Graphic Design: PR: GRA 3102C and GRA 3803C. Graphic design techniques and methods related to motion graphics. *Odd Fall, Spring.* M&S fee \$15.00

HBR 1120 CAH-JUD 4(4,0)
Elementary Modern Hebrew Language and Culture I: Designed to initiate the student to the major language skills; listening, speaking, reading and writing, as well as to constitute an introduction to Israeli culture. *Fall.*

HBR 1121 CAH-JUD 4(4,0)
Elementary Modern Hebrew Language and Culture II: PR: HBR 1120 or equivalent. Continuation of HBR 1120. *Spring.*

HBR 2200 CAH-JUD 3(3,0)
Intermediate Modern Hebrew I: PR: HBR 1121 or equivalent. Designed to continue the study of Modern Hebrew; increase proficiency in conversation, reading and writing skills, and further expose students to Israeli culture. *Occasional.*

HBR 2201 CAH-JUD 3(3,0)
Intermediate Modern Hebrew II: PR: HBR 2200. Further development of modern Hebrew language skills in listening, speaking, reading, and writing. *Occasional.*

HBR 3250 CAH-JUD 3(3,0)
Biblical Hebrew: PR: HBR 1121 or C.I. Grammatical and syntactical structure of Biblical Hebrew. *Occasional.*

HBR 3410 CAH-JUD 3(3,0)
Conversational Israeli Hebrew: PR: HBR 1120, HBR 1121 or equivalent, C.I. Study and practice of contemporary conversational Israeli Hebrew. *Occasional.*

HFT 1000 RCHM-HSP SERV 3(3,0)
Introduction to the Hospitality and Tourism Industry: An orientation to the hotel, restaurant, and travel industry, and its history, structure, and operating procedures. *Fall, Spring.*

HFT 2071 RCHM-TEA 3(3,0)
Introduction to the Entertainment Industry: The course provides students with core knowledge of the diverse and dynamic entertainment industry. *Fall, Spring.*

HFT 2220 RCHM-HSP SERV 3(3,0)
Hospitality Human Resources Management: Application of strategic principles of human resources to the hospitality tourism setting. *Fall, Spring.*

HFT 2254 RCHM-FOOD&LODG 3(3,0)
Lodging Operations: PR: HFT 1000. Basic principles of operating a lodging facility including accounting, housekeeping, engineering, front desk, and guest services. *Fall, Spring.*

HFT 2330 RCHM-TEA 3(3,0)
Entertainment Management: Management principles that are fundamental for successful operation in the entertainment industry are reviewed. Various ways that entertainment organizations operate and generate profit are discussed. *Fall, Spring.*

HFT 2401 RCHM-HSP SERV 3(3,0)
Hospitality Industry Financial Accounting: PR: ECO 2013 or ECO 2023, and MAC1105. Basic understanding of financial accounting and specifically hospitality industry accounting concepts and procedures used in hotels, restaurants and clubs. *Fall, Spring.*

HFT 2500 RCHM-HSP SERV 3(3,0)
Hospitality and Tourism Marketing: PR: HFT 1000. The application of marketing concepts to the Hospitality and Tourism Industry. Special emphasis on marketing planning and strategic marketing. *Fall, Spring.*

HFT 2563 RCHM-TEA 3(3,0)
Digital Marketing in Entertainment: PR: HFT 2071. Investigate the role of digital and mobile marketing and the most successful techniques associated with these marketing approaches in the entertainment industry. *Fall, Spring.*

HFT 2750 RCHM-TEA 3(3,0)
The Event Industry: Overview of meetings, conventions, special events and exhibitions including the roles of organizations and people involved in the businesses that comprise this industry. *Fall, Spring.*

HFT 2843 RCHM-FOOD&LODG 3(3,0)
Sanitation in the Food Service Industry: Causes and prevention of food spoilage and food borne illnesses. Includes National Restaurant Association (NRA) certification. *Fall, Spring.*

UCF Courses and Descriptions

HFT 3224 RCHM-HSP SERV 3(3,0)
Hospitality Management & Leadership Fundamentals: PR: HFT 1000 or C.I. Principles of hospitality and tourism industry management and leadership; covers foundational concepts of service industry management and leadership. *Fall, Spring.*

HFT 3263 RCHM-FOOD&LODG 3(3,0)
Restaurant Management: PR: HFT 1000, FSS 2221C, and junior standing. Discussion of the topics integral for the successful management of restaurant and food service organizations. *Fall, Spring.*

HFT 3273 RCHM-FOOD&LODG 3(3,0)
Principles of Resort Timesharing: PR: HFT 1000. Principles of resort timeshare operations and ownership. *Fall, Spring.*

HFT 3323 RCHM-HSP SERV 3(3,0)
Hospitality Physical Plant Management: PR: Junior standing. Analysis of operational problems related to the physical plant and structure of enterprises in the hospitality industry. *Spring.*

HFT 3353 RCHM-TEA 3(3,0)
Golf Planning & Operations I: Customer relations concepts, an effective golf instruction program, and characteristics of effective merchandising & inventory procedures. *Occasional.*

HFT 3354 RCHM-TEA 3(3,0)
Agronomy for Golf Course Management: PR: HFT 3353. Primary roles and responsibilities of the golf course superintendent. *Occasional.*

HFT 3357 RCHM-TEA 3(3,0)
Club Event Operations: PR: HFT 1000; HFT 2500. Develop, plan, and organize club events of all types. *Occasional.*

HFT 3373 RCHM-TEA 3(3,0)
Event Design, Production & Technology: PR: HFT 1000, HFT 2750, and HFT 3670, or C.I. Aspects of event production, including art, design and staging. How technology is used in the event industry to increase effectiveness and productivity. *Fall, Spring.*

HFT 3375 RCHM-TEA 3(3,0)
Entertainment Business: PR: HFT 2071 and HFT 2330. The course examines business models in the various subsectors of the entertainment industry focusing on financial, marketing, and human resources as well as value proposition. *Fall, Spring.*

HFT 3376 RCHM-TEA 3(3,0)
Foundations of Production Management: PR: HFT 2071, HFT 2330, and HFT 2563. The course challenges students to develop an entertainment production timeline that highlights the importance of collaboration and the inclusion of all stakeholders. *Fall, Spring.*

HFT 3384 RCHM-TEA 3(3,0)
Club Enterprise Management: PR: HFT 1000 and FSS 2221C. Comprehensive examination of the club management industry, its related national and international associations, and career path opportunities. *Occasional.*

HFT 3395 RCHM-TEA 3(3,0)
Entertainment Media and Technology: PR: HFT 2071, HFT 2563, HFT 3376. Students explore the foundations of media production, data analytics, digital promotion and distribution in the entertainment industry. Discuss cultural, demographic and technology market opportunities. *Fall, Spring.*

HFT 3431 RCHM-HSP SERV 3(3,0)
Hospitality Industry Managerial Accounting: PR: ECO 2013 or ECO 2023, and MAC 1105 and HFT 2401. Presentation, interpretation, and analysis of internal and external hospitality industry financial reports affecting management decisions using hospitality industry systems of accounting. *Fall, Spring.*

HFT 3443 RCHM-TEA 3(3,0)
Event Technology: PR: HFT 2750. Use of technology in the event industry to solidify processes and help people be more productive. Covers types of technology for different event processes. *Fall, Spring.*

HFT 3444 RCHM-HSP SERV 3(3,0)
Hospitality Information Systems: PR: ECO 2013 or ECO 2023, and CGS 2100, MAC 1105, HFT 2254. Focuses on management functions and practices, information systems and technology in hospitality. Higher tech for higher touch building on computer literacy and operation knowledge. *Fall, Spring.*

HFT 3463 RCHM-TEA 3(3,0)
Revenue & Relationships in the Entertainment Industry: PR: HFT 2401 and HFT 3375. Basic fund raising principles and sales strategies within the entertainment industry are applied. Industry relevant concepts of revenue and relationship management strategies are learned. *Fall, Spring.*

HFT 3512 RCHM-TEA 3(3,0)
Event Promotion: PR: HFT 2750, and HFT 2500. Promotion of events to sponsors, attendees, exhibitors and other participants. *Fall, Spring.*

HFT 3519 RCHM-TEA 3(3,0)
Event Services: PR: HFT 2750 and HFT 2254. The acquisition and management of services integral to the success of events. The supply side of the event industry. *Fall, Spring.* M&S fee \$32.00

HFT 3523 RCHM-TEA 3(3,0)
Event Sales: PR: HFT 2500 and HFT 3519, or C.I. In-depth look at the sales process for events, including the development of requests for proposals, negotiation skills and sales strategies. *Fall, Spring.*

HFT 3540 RCHM-HSP SERV 3(3,0)
Guest Services Management I: PR: ECO 2013 or ECO 2023, and MAC 1105. The study of making decisions from the guest's point of view in the hospitality industry. *Fall, Spring.*

HFT 3593 RCHM-TEA 3(3,0)
Consumer Behavior in Entertainment: PR: HFT 2071, HFT 2563, and HFT 3395. Explores entertainment consumer behavior as driven by physiological, psychological and social domains that are also shaped by marketing practices and macro-environmental factors. *Fall, Spring.*

HFT 3603 RCHM-HSP SERV 3(3,0)
Legal Environment in the Hospitality and Tourism Industry: PR: C.I. Principles of law as related to the Hospitality/Tourism Industry. *Fall, Spring.*

HFT 3654 RCHM-FOOD&LODG 3(3,0)
Hospitality Franchising: PR: HFT 2254 or HFT 3263, HFT 2500, HFT 3431 and Junior standing. Addresses the legal requirements for franchising, contract rates, responsibilities, size, structure, and history. *Spring.*

HFT 3670 RCHM-TEA 3(3,0)
Hospitality and Event Risk Management: PR: HFT 2500 and HFT 2750. Risk, crisis, and liability issues that may arise in the planning and management of special events, meetings, conventions, and exhibitions. *Fall, Spring.*

HFT 3700 RCHM-TEA 3(3,0)
Tourism Management: PR: HFT 1000 and junior standing or C.I. Analysis of the tourism phenomenon in contemporary societies. An exploration of major concepts about tourism as an inter-linked industry composed of many sectors within both the private and public sectors. *Fall, Spring.*

HFT 3741 RCHM-TEA 3(3,0)
Meeting Management: PR: HFT 2750. The process of meeting planning, from setting objectives to analyzing the success of the event. *Fall, Spring.*

HFT 3770 RCHM-TEA 3(3,0)
Cruise Line Operations and Management: PR: HFT 1000 and junior standing or C.I. Understanding of cruise company operations and management. Shipboard operation and delivery of the cruise product to the guest. *Occasional.*

HFT 3785 RCHM-TEA 3(3,0)
Management of Gaming Enterprises: PR: Junior level standing. An in-depth study of gaming-based organizations including cruise ships, Indian reservation casinos, and others. The history and development of gaming organizations, the economics, social, and cultural impact of gaming and managerial challenges and opportunities in the industry. *Occasional.*

HFT 3795 RCHM-TEA 3(3,0)
Leading in the Entertainment Industry: PR: HFT 2071 and HFT 2330. The course challenges students to develop a personal leadership framework that can successfully function within a creative environment through the lens of entertainment. *Fall, Spring.*

HFT 3798 RCHM-TEA 3(3,0)
Fairs and Festivals: PR: HFT 2750. Evolution of modern day fairs and festivals. *Fall, Spring.*

HFT 3811 RCHM-FOOD&LODG 3(3,0)
Beverage Sales, Marketing, and Distribution: PR: HFT 1000 and HFT 2500. The complex world of beverage sales, marketing and distribution, including brand management, legal issues, and the roles of producers, importers, wholesalers, retailers, and hospitality outlets. *Spring.*

HFT 3813 RCHM-FOOD&LODG 3(3,0)
Foodservice Marketing, Sales, and Distribution: PR: HFT 2500 and HFT 3263. Food service marketing, sales, and distribution from both an operator and supplier perspective. *Fall, Spring.*

HFT 3868 RCHM-FOOD&LODG 3(3,0)
History and Culture of Wine: PR: Minimum age of 21 and a History course or C.I. The role that wine has played in the history, culture, and religion of diverse civilizations. *Occasional.* M&S fee \$70.00

HFT 3933 RCHM-RCHM 1(1,0)
Distinguished Lectures in Hospitality Management: PR: HFT 1000, Junior standing. First hand introduction to hospitality leaders, their perspectives on the segments they represent, and the breadth of those segments. Graded S/U. *Fall, Spring.*

HFT 3949 RCHM-RCHM 0-5(0,1-5)
Cooperative Education: Provides paid, pre-professional work experience related to the students' major while they continue to attend school. Requires achievement of major-related learning objectives. Graded S/U. *Fall, Spring.*

HFT 4065 RCHM-FOOD&LODG 3(3,0)
Fine Spirits Management: PR: HFT 1000 and at least 21 years of age. This course is designed to familiarize the student with the production, aroma/taste profiles, branding, advertising, sales, distribution, laws, regulations, and responsible practices of distilled spirits. *Occasional.* M&S fee \$45.00

HFT 4206C RCHM-FOOD&LODG 3(3,1)
Hospitality Operations: PR: Junior Standing or C.I. An integration of lodging and food service operations providing students with a comprehensive knowledge of these related content areas; food service lab component. *Occasional.*

HFT 4253 RCHM-FOOD&LODG 3(3,0)
Advanced Lodging Operations: PR: HFT 2254, HFT 2500, HFT 3431, HFT 3603 and Junior Standing. Advanced case study course based on interaction with hotels, timeshares, shared ownership properties, and other sleeping accommodations. Exposes course participants to real life operational situations. *Spring.*

HFT 4255 RCHM-FOOD&LODG 3(3,0)
Advanced Hotel Development: PR: HFT 4464, HFT 4473, or C.I. Hotel investment practices, risk management and other investment decision factors. *Occasional.*

HFT 4266 RCHM-FOOD&LODG 3(3,0)
Hospitality Brand Management: PR: HFT 3263 or HFT 2254, and HFT 2500 and Junior standing or C.I. Exploration of the principles of brand management for restaurants and foodservice, hotels, timeshares and shared ownership properties. *Fall, Spring.*

HFT 4268 RCHM-FOOD&LODG 3(3,0)
Case Studies in Restaurant Management: PR: HFT 3263 and junior standing or C.I. Application of case study methodology to advanced topics in restaurant and food service management. *Fall, Spring.*

HFT 4274 RCHM-FOOD&LODG 3(3,0)
Resort Management: PR: HFT 1000, HFT 2254, or C.I. Comprehensive analysis of applied theories, principles, and techniques in the management of hotels and shared ownership/timeshare properties. *Spring.*

HFT 4275 RCHM-FOOD&LODG 3(3,0)
Development of Vacation Ownership Resorts: PR: HFT 3273 and Junior standing. Comprehensive analysis of applied theories, principles, and techniques used in the planning and development of vacation resorts. *Occasional.*

HFT 4277 RCHM-TEA 3(3,0)
Club Management: PR: HFT 1000 and junior standing or C.I. A study of the history, development, operation and management of Clubs. Emphasis will be placed on operational aspects. *Occasional.*

HFT 4281 RCHM-FOOD&LODG 3(3,0)
Restaurant Leadership Strategies and Tactics: PR: HFT 3263 and Junior standing. An analysis of the leadership styles of restaurant industry founders and executives. *Occasional.*

HFT 4286 RCHM-HSP SERV 3(3,0)
Hospitality Communications: PR: HFT 1000; HFT 2220; HFT 3444; HFT 3540 and Junior standing. Communication exchanges in the hospitality industry for effective presentations, conflict resolution, and report writing. Emphasis on inter departmental dependence by managers in hospitality enterprises in the areas of reading, writing, speaking, and listening. *Fall, Spring.*

HFT 4295 RCHM-HSP SERV 3(3,0)
Leadership and Strategic Management in Hospitality Industry: PR: Senior standing; PR: or CR: HFT 4464. Principles of strategic decision making in various hospitality and tourism organizations; lectures, class discussions, and group case analysis presentations. *Fall, Spring.*

HFT 4343 RCHM-HSP SERV 3(3,0)
Hospitality Facilities Management: PR: HFT 1000, HFT 2254 and Junior standing; or C.I. Principles of facility planning, layout, design, and physical plant characteristics for hotels, timeshares and shared ownership properties, restaurants and foodservice and other hospitality related venues. *Fall, Spring.*

HFT 4358 RCHM-TEA 3(3,0)
Golf & Club Facility Design: PR: HFT 4277. Golf course and golf facility design from a functional perspective and from a perspective of form. *Occasional.*

HFT 4375 RCHM-TEA 3(3,0)
Advanced Trade Show Management: PR: HFT 4754 or C.I. Trade show installation, floor management and dismantling/shipping. Pre-event logistics and on-site management of critical success factors. *Occasional.*

HFT 4377 RCHM-TEA 3(3,0)
Entertainment Production Management: PR: HFT 3376. Course examines the knowledge and skills necessary to design, execute, and operate an entertainment business model, including visual storytelling, entertainment content, production plan, and budget. *Fall, Spring.*

HFT 4378 RCHM-TEA 3(3,0)
Entertainment Portfolio Management: PR: All core Entertainment Management courses. This course challenges the student to demonstrate expert knowledge across the curricula while building a real-life actionable entertainment business plan. *Fall, Spring.*

HFT 4394 RCHM-TEA 3(3,0)
Event Operations: PR: All courses in the Event Management core, or C.I. Planning and implementing a live event. *Fall, Spring.* M&S fee \$64.00

HFT 4398 RCHM-TEA 3(3,0)
Entertainment Entrepreneurship: PR: HFT 3376, HFT 3375, and ECO 2013 or ECO 2023. How an entrepreneur develops a new entertainment business with a focus on finance, strategic analysis, and risk. *Fall, Spring.*

HFT 4413 RCHM-HSP SERV 3(3,0)
Technology Applications for Hospitality Management: PR: HFT 3444 Hospitality Information Systems. Provides students with fundamental information system concepts and techniques for effective applications to strategic thinking in hospitality organizations. *Odd Spring.*

HFT 4432 RCHM-HSP SERV 3(3,0)
Hospitality Industry Auditing: PR: HFT 3431 Hospitality Industry Managerial Accounting. Provides basic fundamentals of eliminating fraud and saving money through proper internal controls in the hospitality industry. *Occasional.*

HFT 4457 RCHM-HSP SERV 3(3,0)
Food, Beverage, and Labor Cost Controls: PR: HFT 3263, HFT 3431, and Junior standing. Provides students with basic fundamentals of food, beverage, and labor cost control systems in the hospitality industry. *Fall, Spring.*

HFT 4464 RCHM-HSP SERV 3(3,0)
Hospitality Industry Finance: PR: HFT 2401. Working knowledge of finance concepts and theories applicable to the Hospitality Industry including evaluating management contracts, franchising, and leasing. *Fall, Spring.*

HFT 4468 RCHM-HSP SERV 3(3,0)
Revenue Management in the Hospitality Industry: PR: HFT 2401, HFT 2254, HFT 2500, and HFT 3263. Revenue management practices, across multiple industry sectors, in hospitality and tourism organizations which include capacity management, demand and revenue forecasting, discounting, overselling, displacement, rate management. *Fall, Spring.*

HFT 4469 RCHM-TEA 3(3,0)
Financial Performance in Entertainment: PR: HFT 3463. Working knowledge of finance concepts and theories applicable to the entertainment industry including financial transactions, capital budgeting, and financial simulations. *Fall, Spring.*

HFT 4473 RCHM-FOOD&LODG 3(3,0)
Hospitality and Tourism Development: PR: HFT 2254 or HFT 3263, HFT 2500, HFT 2401, and Junior standing. Review of conceptual development, design/layout, and construction of hotel, resort/recreation, restaurant, theme park, and conference/convention center projects for both domestic and global destinations. *Spring.*

HFT 4522 RCHM-FOOD&LODG 3(3,0)
Resort Sales Tactics and Strategies: PR: HFT 1000, HFT 2254, or C.I. Sales tactics and business-to-business strategies employed in the sales and marketing of resort hotels, timeshares, and shared ownership properties. *Fall.*

HFT 4561 RCHM-TEA 3(3,0)
Destination Marketing: PR: HFT 2500 and HFT 3700. Development of destination-oriented marketing goals and strategies with an emphasis on integrated destination marketing. Covers trends and challenges influencing destination marketing. *Occasional.*

HFT 4614 RCHM-TEA 3(3,0)
Risk Management in Theme Parks and Attractions: PR: HFT 4755 and HFT 3603; or C.I. Examines principles and issues related to the nature and mitigation of risks at theme parks and attractions. Covers all theme park operating departments. *Occasional.*

HFT 4623 RCHM-TEA 3(3,0)
Entertainment Law and Ethics: PR: HFT 3376, HFT 3375, and HFT 3795. The course focuses on the main legal and ethical issues affecting the entertainment industry. *Fall, Spring.*

HFT 4626 RCHM-TEA 3(3,0)
Public Policy Issues in the Entertainment Industry: PR: HFT 3375 and HFT 4623. The course examines the degree to which entertainment businesses are intertwined with government regulations and interventions. (3 credits) *Fall, Spring.*

HFT 4732 RCHM-TEA 3(3,0)
Tourism Impact Analysis: PR: HFT 3700. Quantitative impact analysis of tourism as an industry in the regional/national economy along the tourism satellite accounts concept. *Fall, Spring.*

HFT 4735 RCHM-TEA 3(3,0)
Tourism Geography: PR: HFT 3700 and junior standing or C.I. A seminar discussing the main geographical tourism destinations in U.S. and the World. *Fall, Spring.*

HFT 4736 RCHM-TEA 3(3,0)
Destination Management: PR: HFT 3700. Principles and issues related to destination management; strategies and processes involving design, operations, distribution, networking and impact of tourism at the destination. *Occasional.*

HFT 4751 RCHM-TEA 3(3,0)
Managing the Employee Experience in the Theme Park and Attraction Industry: PR: HFT 4755 and junior standing or C.I. Managing staffing needs, supervision, communication, legal compliance, and retention in the theme parks and attraction industry. *Fall.*

HFT 4752 RCHM-TEA 3(3,0)
Managing the Guest Experience in the Theme Park and Attraction Industry: PR: HFT 4755. The management of guest needs and expectations in theme parks and attractions. *Spring.*

HFT 4754 RCHM-TEA 3(3,0)
Exhibit and Trade Show Operations: PR: HFT 2750 or C.I. Provides an in-depth study of exhibit and trade show operations. Focuses on both supply and demand pertaining to exhibits and trade shows. *Fall, Spring.*

HFT 4755 RCHM-TEA 3(3,0)
Theme Park and Attraction Management: PR: HFT 1000 and junior standing or C.I. An in-depth study of the theme park and attraction industry, focusing on resources, ride operations, merchandising, food services, and architectural design. *Fall, Spring.*

HFT 4757 RCHM-TEA 3(3,0)
Event Management: PR: All courses in the Event Management core, or C.I. The development, design, and evaluation of events that meet stakeholder needs and expectations. Incorporates a case study approach. Requires event volunteer hours approved by instructor. *Fall, Spring.*

HFT 4758 RCHM-TEA 3(3,0)
Operational Issues in the Theme Park and Attraction Industry: PR: HFT 4755. Organizational structure and operational culture of theme parks and attractions. *Fall.*

HFT 4759 RCHM-TEA 3(3,0)
Product Development in Theme Parks and Attractions: PR: HFT 4755 and junior standing or C.I. The strategic management process associated with product development in the theme parks and attraction industry. *Occasional.*

HFT 4762 RCHM-TEA 3(3,0)
Current Practices in the Airline Industry: PR: Junior standing. A survey of the U.S. and International airline industry. Emphasis on the organization and management functions of the airlines. *Occasional.*

HFT 4795 RCHM-TEA 3(3,0)
Entertainment Arts and Events: PR: HFT 2750 and HFT 4755 or C.I. A historical perspective of theme park, event, and attraction entertainment. Covers show development, event production, creative processes, casting, costuming, staffing, and evaluation. *Fall, Spring.*

HFT 4796 RCHM-TEA 3(3,0)
International Events: PR: HFT 2750. Considerations when planning events that are held outside of the United States or that attract a large number of participants from outside the United States. *Fall, Spring.*

HFT 4802 RCHM-TEA 3(3,0)
Catering Sales Management: PR: HFT 2750, HFT 3523, HFT 3670, and FSS 2284C, or C.I. The catering manager's role in the catering sales process. Emphasis on market segments, customer relationships, menu planning, financial impact, internal communication/documentation and event oversight. *Fall, Spring.* M&S fee \$45.00

HFT 4861 RCHM-FOOD&LODG 3(3,0)
Beverage Management: PR: HFT 1000 and junior standing. The origin production, storing, marketing, and control of beverages in the hospitality industry. *Fall, Spring.*

HFT 4864 RCHM-FOOD&LODG 3(3,0)
Seminar in Quality Brewing and Fine Beer: PR: HFT 1000, minimum age of 21 by first day of class. The production and service of malt beverages. *Fall, Spring.* M&S fee \$45.00

UCF Courses and Descriptions

HFT 4865 RCHM-FOOD&LODG 3(3,0)
Advanced Wine Management: PR: Minimum age of 21, HFT 3868 or HFT 4866C, or C.I. Advanced study of viticulture, enology and wine regions of the world. *Occasional.* M&S fee \$70.00

HFT 4866C RCHM-FOOD&LODG 3(3,1)
Exploring Wines of the World: PR: HFT 1000, minimum age of 21 by first day of class, or C.I. Using senses to evaluate wines, methodology of tasting and evaluating wines, growing, processing, and production of grape varieties used in making wine. *Fall, Spring.* M&S fee \$70.00

HFT 4894 RCHM-FOOD&LODG 3(3,0)
International Gastronomy: PR: FSS 2221C, HFT 1000, and C.I. A world view of culture and cuisine that includes an international travel component. May be used in the degree program a maximum of 2 times. *Occasional.*

HFT 4949 RCHM-RCHM 0-5(0,1-5)
Cooperative Education: Provides paid, pre-professional work experience related to the students' major while they continue to attend school. Requires achievement of major-related learning objectives. Graded S/U. *Fall, Spring.*

HIM 3006 HPA-HMI 3(3,0)
Foundations of Health Information Management (HIM): PR: ENC 1102. Foundation of profession; release of information; record analysis; numbering and filing systems; standards for long-term care; ambulatory care; and mental health records. *Fall, Spring.*

HIM 3116C HPA-HMI 4(3,2)
Health Record Organization and Management: PR: HIM 3006 and acceptance into the upper-division limited access HIM program; or C.I. Nomenclatures/classification systems; health and vital statistics; data analysis and presentation; indexing; computer abstracting; accrediting and approving agencies; medical staff organization. *Spring.*

HIM 3806C HPA-HMI 3(1,4)
Professional Practice Experience I: PR: Admission to HIM program. CR: HIM 3006, HSC 3537 and HIM 3116C. Virtual hospital tour; master patient index; numbering and filing systems; assembly and analysis; incomplete record control; record storage; retention and retrieval; and release of information. *Fall, Spring.*

HIM 4226C HPA-HMI 5(3,4)
Coding Procedures I: PR: HSC 3537 or C.I. Principles and mechanics of coding systems for inpatient health information retrieval; ICD-9-CM; DRGs; encoders. *Fall, Spring.*

HIM 4256C HPA-HMI 3(2,2)
Coding Procedures II: PR: HSC 3537 or C.I. Principles and mechanics of coding systems for outpatient health information retrieval; CPT/HCPCS; APCs; encoders. *Fall.*

HIM 4344C HPA-HMI 4(3,2)
Health Information Department Management: PR: HIM 3116C; HSA 4180 or MAN 3025; or C.I. Personnel administration; budgeting; forms analysis; work distribution and simplification; equipment selection; ergonomics and space planning. *Fall.*

HIM 4508C HPA-HMI 3(2,2)
Quality Management: PR: HSC 3537 or C.I. Principles and mechanics of quality improvement; utilization review; case management and risk management. *Fall, Spring.*

HIM 4624 HPA-HMI 3(3,0)
Health Data Management: PR: Acceptance into HIM program or C.I. Health care statistics, data analytics and data usage specific to health informatics and information management will be explored in depth. *Spring.*

HIM 4656C HPA-HMI 3(2,2)
Health Information Management Systems: PR: or CR: HIM 3006. Vitalization of computerized information systems, management and patient care in the health care industry, systems analysis, system design and project management concepts. *Fall, Spring.*

HIM 4676 HPA-HMI 3(3,0)
Professional Development and Issues in Health Information Management: PR: HIM 4344C, HIM 4508C. Analysis of management functions in health care setting; the HIM professional as an educator; problem-solving techniques; professional ethics; alternative careers. *Spring.*

HIM 4816C HPA-HP 3(1,4)
Professional Practice Experience II: PR: HIM 3806C and CR: HIM 4226C, HIM 4256C, HIM 4344C, and HIM 4508C. Transcription; coding; quality improvement; risk management; human resources; statistics; accrediting and licensing; revenue management cycle; medical staff organization. *Fall, Spring.*

HIM 4838 HPA-HMI 5(0,15)
Management Affiliation: PR: or CR: HIM 4676 and HIM 4816C. Assignment to a selected health care facility serving in an administrative capacity under the direction of a Registered Health Information Administrator; lab exercises; comprehensive exam. *Fall, Spring.*

HIM 4998 HPA-HMI 0(0,0)
Internship Orientation: PR: HIM 3116 and senior standing. An orientation course designed to ensure students fully prepare for, identify and secure an ideal HIM internship. *Fall, Spring.*

HIM 5118C HPA-HMI 4(3,1)
Health Care Informatics and Information Technology: PR: Admission to M.S. in Health Care Informatics or C.I. An overview of the current state of health care informatics including existing and future technologies. Areas of emphasis include EHR, HIE, Standards, and clinical decision making. *Fall.*

HIS 3462 CAH-HIST 3(3,0)
History of Science: PR: EUH 2000 and EUH 2001 or C.I. Examines past and present science, scientific thought, and the relationship between science and society. *Occasional.*

HIS 3949 CAH-HIST 0(0,8)
Cooperative Education in History: PR: Departmental permission required before registering. Cooperative education experience in history. Graded S/U. May be repeated for credit. *Occasional.*

HIS 4065 CAH-HIST 3(3,0)
Public History: Principles & Techniques: PR: AMH 2020 or C.I. Practice of public history including historic preservation, museum studies, archival management, oral history, digital history, historical editing, and conservation science. *Occasional.*

HIS 4070 CAH-HIST 3(3,0)
Oral History: PR: Either AMH 2010, AMH 2020 or C.I. Theories and practices of oral history. Field work required. *Occasional.*

HIS 4150 CAH-HIST 3(3,0)
History and Historians: PR: C.I. A study of European and/or American historiography. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

HIS 4323 CAH-HIST 3(3,0)
History of the Future: PR: EUH 2000 and EUH 2001. Past visions of the future and how they were influenced by issues relevant to the period. Emphasis on 19th and 20th centuries. *Occasional.*

HIS 4490 CAH-HIST 3(3,0)
History of Medicine: PR: AMH 2010 or AMH 2020. The history of medicine and its relationship to culture and society from the Ancient World to the present. *Occasional.*

HIS 4935 CAH-HIST 3(3,0)
Senior Seminar: PR: Senior standing, history major, and C.I. Research in history through sustained reading, writing, and discussion on a focused topic. May be repeated for credit. *Fall, Spring.*

HIS 4944 CAH-HIST 3(3,0)
Internship in Public History: PR: C.I. The Public History Internship is a one-semester course in which undergraduate history majors explore and gain experience in public history professions. *Fall, Spring.*

HIS 4959 CAH-HIST 0(0,0)
History Portfolio: PR: "C" or better in HIS 4150 and Senior standing. In the term they are graduating, History B.A. students revise their portfolio and submit for approval. *Fall, Spring.*

HIS 4970 CAH-HIST 3(3,0)
Senior Thesis: Original research paper available to advanced history majors, topics to be selected in consultation with a directing professor. *Occasional.*

HIS 4970H CAH-HIST VAR
Honors Undergraduate Thesis: Graded S/U or Letter grade. *Occasional.*

HIS 5067 CAH-HIST 3(3,0)
Introduction to Public History: PR: Graduate status or senior standing or C.I. Examine and discuss the practice of history in museums, archives, documentary editing, historical publication, media, historical societies, and government agencies. *Occasional.*

HIS 5083 CAH-HIST 3(3,0)
Cultural Heritage Management: PR: Graduate standing, HIS 5067, or C.I. Readings in the debates and issues of international management of cultural heritage and property, including introduction to UNESCO standards. *Occasional.*

HIS 5088 CAH-HIST 3(3,0)
Readings in Curation & Public History: PR: Graduate standing or C.I. Readings in the theories, principles, methods, and design for publicly engaged history content and visualization. *Even Fall.*

HIS 5095 CAH-HIST 3(3,0)
Readings in Historic Preservation: PR: HIS 5067 or C.I. Course will expose students to major theoretical conversations in Historic Preservation including law, sustainability, and cultural resource management. *Occasional.*

HIS 5925 CAH-HIST 3(3,0)
History in the Digital Age: PR: Graduate standing or C.I. Readings in the history, theory, and methodologies of digital historical practices from precedents in New Social History to the present, including use in Public History. *Even Fall.*

HLP 2701 ED-CFCS 3(3,0)
Peer Education Training: PR: Sophomore standing and C.I. Strategies for teaching life skills and health education information for secondary students and college age peers. *Fall, Spring.*

HSA 3012 HPA-HP 3(3,0)
Issues & Trends in Public Health: PR: Sophomore standing and (CGS 1060C or CGS 2100C). The American public health system, looking at the historical, present day, and future organization and management of all its components. *Occasional.*

HSA 3104 HPA-HMI 3(3,0)
Health Services Administration Cornerstone: PR: (CGS 1060C or CGS 2100C) and Junior Standing, or C.I. Heighten the overall student awareness about the Health Services Administration Field, provide a foundation or framework to guide students through the major. *Fall, Spring.*

HSA 3111 HPA-HP 3(3,0)
U.S. Health Care Systems: PR: (CGS 1060C or CGS 2100C) and Sophomore Standing. A survey of the economics, social, and political aspects of the health care system in the United States. *Fall, Spring.*

HSA 3170 HPA-HP 3(3,0)
Health Care Finance: PR: HSA majors - PR: or CR: HSA 3111 and PR: ACG 2021 and ACG 2071; non-HSA majors: ACG 2021 and ACG 2071. Budgeting and resource allocation related to health care agencies. *Fall, Spring.*

HSA 3222 HPA-HP 3(3,0)
Long Term Care and Administration: PR: HSA major and Sophomore standing, or C.I. Organization and functioning of long-term care administration. Covers long-term care providers, interaction in long-term care continuum, managing long-term care and future issues. *Even Fall, Spring.*

HSA 3423 HPA-HMI 3(3,0)
Health Law: PR: HSA or HIM major, and HIM 3006, or C.I. Principles of law as applied to the health field, with special reference to health practices and information management. *Fall*.

HSA 3430 HPA-HP 3(3,0)
Health Care Economics: PR: HSA 3111; ECO 2023; or C.I. To provide an application of economic principles to analyze how different economic incentives affect patients, providers, and policy makers behaviors in the delivery of health services. *Fall/Spring*.

HSA 4109 HPA-HP 3(3,0)
Principles of Healthcare Reimbursement, Insurance, and Managed Care Plans: PR: HSA 3111 or C.I. Course will introduce the contractual, financial, and practice pattern components of managed care. *Even Fall/Spring*.

HSA 4180 HPA-HP 3(3,0)
Organization & Management for Health Agencies I: PR: HSA 3111 or admitted to HIM program. Management of health care organizations, strategic planning, healthcare economics, and healthcare financial management. *Fall/Spring*.

HSA 4184 HPA-HP 3(3,0)
Organization & Management for Health Agencies II: PR: HSA 3111 and HSA 4180, or C.I. Management of health care organizations including hospitals, long term care facilities, and medical group practices. *Fall*.

HSA 4191 HPA-HP 3(3,0)
Fundamentals of Health Information Technology: PR: HSA 3111; CGS 2100C, or CGS 1060C; or C.I. The origin, evolution and application of health information technology in today's healthcare industry. *Fall/Spring*.

HSA 4220 HPA-HMI 3(3,0)
Long Term Patient Management: PR: HSA 3111. Concepts and process of patient care planning and management in a long term care facility. *Occasional*.

HSA 4502 HPA-HP 3(3,0)
Risk Management Systems: PR: HSA 3111 or C.I. Safety, liability and loss control issues with emphasis on risk retention, risk reduction and risk transfer in health care. *Fall/Spring*.

HSA 4702 HPA-HP 3(3,0)
Health Sciences Research Methods: PR: (STA 2014C or STA 2023) and Junior Standing, or C.I. Introduction to research design in the Health Sciences, including design, literature review, testing, analysis, and conclusions. *Fall/Spring*.

HSA 4850 HPA-HMI VAR 3(3,0)
Health Services Administration Internship: PR: HSA 4853, 2.75 Major GPA, 90 overall credit hours, 24 HSA credit hours, approval of the Internship Director. 150 hour minimum administrative experience in an approved health care organization. *Fall/Spring*.

HSA 4853 HPA-HMI 0(0,0)
Internship Orientation: PR: 2.75 Major GPA, 90 overall credit hours, 24 HSA credit hours. This prerequisite for HSA 4850 provides critical information for the internship search. The course must be completed no more than one semester prior to the internship. *Fall/Spring*.

HSA 4939 HPA-HMI 3(3,0)
Health Services Administration Capstone: PR: HSA major and senior standing, HSA 3170, HSA 3430. Capstone course applies healthcare administration theory to a healthcare organization. Students will integrate previous coursework to evaluate an existing healthcare organization. *Fall/Spring*.

HSA 5177 HPA-HMI 3(3,0)
Foundations of Health Care Finance: PR: Admission to graduate program in HSA or C.I. Preparatory course for graduate students who are not prepared to take the required health care finance course. *Occasional*.

HSA 5198 HPA-HMI 3(3,0)
Health Care Decision Sciences and Knowledge Management: PR: Graduate standing. Emphasis on development of a general systematic approach to solving problems under uncertainty. The role of informatics and application of information technology in improving managerial decision making process will be presented. *Spring*.

HSA 5436 HPA-HMI 3(3,0)
Foundations of Health Care Economics: PR: Admission to HSA graduate program or C.I. Preparatory course for graduate students who are not prepared to take the required health care economics course. *Fall*.

HSA 5504 HPA-HMI 3(3,0)
Health Care Risk Management II: PR: HSA 5509. The Health Care Risk Management course is comprised of a total of 12 modules addressing key areas of the field. Health Care Risk Management I covers Modules 1-6 and Health Care Risk Management II covers Modules 7-12. Students must complete both courses in sequential order in order to apply for Risk Management licensure. *Fall/Spring*.

HSA 5509 HPA-HMI 3(3,0)
Health Care Risk Management I: PR: Admission to M.S. in Health Services Administration or C.I. Examines background, history and philosophy of health care risk management. The Health Care Risk Management course is comprised of a total of 12 modules addressing key areas of the field. Health Care Risk Management I covers Modules 1-6 and Health Care Risk Management II covers Modules 7-12. Students must complete both courses in sequential order in order to apply for Risk Management licensure. *Fall/Spring*.

HSC 1931C HPA-HPA 2(1,1)
Foundations of Leadership: PR: LEAD Scholars Program. Seminar for LEAD Scholars in the College of Health & Public Affairs providing a foundation of leadership, scholarship, and service regarding disciplines in the college. *Occasional*.

HSC 2000 HPA-HP 2(2,0)
Introduction to the Allied Health Professions: PR: Freshman and Sophomores only. A survey of allied health professions with regard to duties, responsibilities, education and training, ethics, and relationships with other health professionals. Graded S/U. *Fall*.

HSC 2524 HPA-HP 3(3,0)
Introduction to Human Disease: PR: BSC 2010C, Restricted to COHPA majors or C.I. Basic concepts and mechanisms related to the understanding of human disease. *Fall/Spring*.

HSC 2921 HPA-HPA 2(2,0)
LEAD Colloquium: PR: Accepted to the LEAD Scholars Program and have completed at least two of the following with a B (3.0) or better: HSC 1931C, EGS 1036C, IDS 1040C, GEB 1091C or EDG 1005C. Experiential leadership in an appropriate setting with the LEAD Scholars Program. May be repeated for credit. *Occasional*.

HSC 3110 HPA-HP 3(3,0)
Medical Self Assessment: PR: Sophomore Standing. Development of clinical skills and understanding of one's health to encourage active participation of individuals in their own health care. *Fall/Spring*.

HSC 3147 HPA-HP 3(3,0)
Introduction to Pharmacology: PR: BSC 2010C and Sophomore Standing. Review of terminology and regulations. Study of drug types and usage. *Fall/Spring*.

HSC 3211 HPA-HP 3(3,0)
Preventive Health Care: PR: PCB 3703C. Preventive healthcare in the U.S., including current recommendations and guidelines to prevent disease and application of preventive interventions to specific chronic diseases. *Fall/Spring*.

HSC 3432 HPA-HP 3(3,0)
Occupational Safety for the Health Care Professional: PR: ZOO 3733C and PCB 3703C. Issues surrounding the health care environment and the risks associated with working there. *Fall/Spring*.

HSC 3537 HPA-HP 3(3,0)
Medical Terminology: A study of the language of medicine and allied health specialties, including work construction, definitions, and application of terms. *Fall/Spring*.

HSC 3559 HPA-COM SC&DIS 3(3,0)
Disabilities in American Society: PR: Junior or senior status. Personal, social, and environmental impediments confronted by persons with disabilities, including communicative disorders. Strategies that promote life satisfaction are also reviewed. *Fall*.

HSC 3593 HPA-HP 3(3,0)
HIV Disease: A Human Concern: Analysis of the spectrum of HIV disease and the issues surrounding this public health crisis. *Fall/Spring*.

HSC 4008 HPA-HP 3(3,0)
Professional Development in Health Professions: PR: ENC 1102 and Junior Standing. Career development planning, professional leadership approaches to problem solving, regulatory and professional requirements. *Fall/Spring*.

HSC 4158 HPA-HP 3(3,0)
Medical Pharmacology I: PR: BSC 2010C and CHM 2045C. General pharmacological principles such as regulations, prescriptions, routes of administration, drug mechanism of action, indications/contraindications, and the side effects. *Fall*.

HSC 4159 HPA-HP 3(3,0)
Medical Pharmacology II: PR: HSC 4158. Mechanism of drug action used in treatment of the nervous, cardiovascular, endocrine, and immune systems. *Spring*.

HSC 4201 HPA-HP 3(3,0)
Community Health: PR: ENC 1102 and Junior Standing, or C.I. Historical, sociocultural and economic factors in community health; current community health problems; interphase of governmental, voluntary and private agencies. *Fall/Spring*.

HSC 4500 HPA-HP 3(3,0)
Epidemiology: PR: HSA 3111 and (STA 2014C or STA 2023), or C.I. A study of the distribution and determination of diseases and injuries in human population. *Fall/Spring*.

HSC 4501 HPA-HP 3(3,0)
Epidemiology of Chronic Diseases: PR: ZOO 3733C, PCB 3703C, and (STA 2014C or STA 2023). Epidemiology of chronic diseases including risk factors, etiology, mortality and morbidity as they relate to clinical practice, research, and intervention. *Occasional*.

HSC 4553 HPA-HP 3(3,0)
Concepts in Pathophysiological Diagnosis: PR: HSC 4555 or HSC 4558, and Senior standing. Basic principles of diagnosis with a focus on methodology and relevance to pathophysiology. *Occasional*.

HSC 4555 HPA-HP 3(3,0)
Pathophysiology I: PR: ZOO 3733C and PCB 3703C, or C.I. Abnormalities in physiologic functioning of the human body, with focus on the etiology, pathogenesis and clinical manifestations of the immune, cardiovascular, respiratory, and renal systems. *Fall/Spring*.

HSC 4558 HPA-HP 3(3,0)
Pathophysiology II: PR: PCB 3703C and ZOO 3733C. Abnormalities in physiologic functioning of the human body, with focus on the etiology, pathogenesis and clinical manifestations of the digestive, hepatobiliary, nervous, and endocrine systems. *Fall/Spring*.

HSC 4564 HPA-HP 3(3,0)
Health Care Needs of the Elderly: PR: HSA 3111 or C.I. Overview of the physical and emotional needs of the elderly, including the institutional health care available. *Fall/Spring*.

HSC 4572 HPA-HP 3(3,0)
Clinical Nutrition: PR: HUN 2201. Basic principles of both normal and medical nutrition therapy associated with health and chronic diseases of public health importance. *Fall/Spring*.

UCF Courses and Descriptions

HSC 4652 HPA-HP 3(3,0)
Health Law and Ethics: PR: ENC 1102 and Junior Standing, or C.I. Overview of the legal and ethical issues faced by health care consumers, practitioners, administrators and health care facilities. *Fall, Spring.*

HSC 4730 HPA-HP 3(3,0)
Applied Health Research Methodology: PR: (STA 2023 or STA 2014C) and Junior Standing. Clinical research issues including: clinical research questions, protocol, patient safety, IRB, ethics and patient rights. *Occasional.*

HSC 4930 HPA-HP 3(3,0)
Senior Seminar: PR: Senior standing, Health Sciences Pre-Clinical Track only. Career and graduate school preparation, and applications of clinical and translational research in healthcare. *Fall, Spring.*

HSC 4943 HPA-HP 3(0,9-12)
Health Sciences Internship: PR: Junior standing, 3.5 UCF GPA, HSC 4555 or HSC 4558, and approval of the Program Director. Provides students with an opportunity to apply their academic knowledge in a various professional healthcare environments. Internship sites include clinical shadowing, research, and other community outreach opportunities. *Occasional.*

HSC 5317 ED-E&HS 3(3,0)
Health Methods: Teaching Strategies and Interventions: PR: Admission to Graduate Certificate in Health and Wellness or C.I. Application of the knowledge of teaching strategies, methodology, and curriculum to develop a comprehensive school health program. *Occasional.*

HUM 2020 CAH-PHIL 3(3,0)
Encountering the Humanities: The range of ideas, research methods and approaches to scholarship, critical reflection, and creative work in the humanities. *Spring.*

HUM 2020H CAH-PHIL 3(3,0)
Honors Encountering the Humanities: PR: Consent of Honors. The range of ideas, research methods and approaches to scholarship, critical reflection, and creative work in the humanities with honors content. *Fall, Spring.*

HUM 2210 CAH-PHIL 3(3,0)
Humanistic Tradition I: An interdisciplinary, multicultural study of the arts and sciences contributed by diverse human traditions to world civilization. Focus is on ancient civilizations and the cultural heritage stemming from them. Primary sources (in translation) are emphasized. *Fall, Spring.*

HUM 2210H CAH-PHIL 3(3,0)
Honors Humanistic Tradition I: PR: Permission of Honors. An interdisciplinary, multicultural study of the arts and sciences contributed by diverse human traditions to world civilization. Focus is on ancient civilizations and the cultural heritage stemming from them. Primary sources (in translation) are emphasized. Honors content. *Fall.*

HUM 2230 CAH-PHIL 3(3,0)
Humanistic Tradition II: An interdisciplinary, multicultural study of the arts and sciences contributed by diverse human traditions to world civilization. Focus is on modern civilizations and their contributions to the Global Village. Primary sources (in translation) are emphasized. *Fall, Spring.*

HUM 2230H CAH-PHIL 3(3,0)
Honors Humanistic Tradition II: PR: Permission of Honors. An interdisciplinary, multicultural study of the arts and sciences contributed by diverse human traditions to world civilization. Focus is on modern civilizations and their contributions to the Global Village. Primary sources (in translation) are emphasized. Honors content. *Spring.*

HUM 3252 CAH-PHIL 3(3,0)
Contemporary Humanities: PR: Any HUM course or C.I. Multicultural study of Philosophy and the arts of the 20th century. *Occasional.*

HUM 3255 CAH-PHIL 3(3,0)
Modern Humanities: PR: Any HUM course or C.I. Multicultural study of Philosophy and the arts of the modern period. *Occasional.*

HUM 3307 CAH-PHIL 3(3,0)
Memory and Testimony: PR: HUM 2210 and HUM 2230 and Junior standing. Interdisciplinary exploration of personal and public memory, focusing on the significance of memory and testimony for our sense of self, family, community, culture, and nation. *Odd Spring.*

HUM 3320 CAH-PHIL 3(3,0)
Contemporary Multicultural Studies: PR: Any HUM course or C.I. Studies the confluence of diverse cultures making up North America in the Information Age, focusing on complete primary sources in philosophy, literature, visual arts and music. *Even Fall.*

HUM 3326 CAH-PHIL 3(3,0)
Theories of Sex and Gender in Humanities: PR: Any HUM course or C.I. Historical and contemporary theories of sex and gender relevant in interdisciplinary Humanities. *Occasional.*

HUM 3401 CAH-PHIL 3(3,0)
Asian Humanities: PR: Any HUM course or C.I. An interdisciplinary survey of the cultures of India, China, and Japan, concentrating on their traditional art, literature, religion, philosophy, and music. *Occasional.*

HUM 3419H CAH-PHIL 3(3,0)
Honors Islamic Thought and Culture: PR: HUM 2230, or REL 2300, and Consent of Honors. The development of Islamic thought and culture, concentrating on religion, jurisprudence, philosophy, science and art with special focus on perception of Islam in Western literature and scholarship. With Honors content. *Occasional.*

HUM 3423 CAH-PHIL 3(3,0)
African Humanities: PR: Any HUM course or C.I. Contemporary art, culture, and philosophy in selected African countries. *Occasional.*

HUM 3431 CAH-PHIL 3(3,0)
Ancient Humanities: PR: Any HUM course or C.I. Development of Ancient Greek thought and culture with emphasis on philosophy, religion, literature and art. *Occasional.*

HUM 3435 CAH-PHIL 3(3,0)
Medieval Humanities: PR: Any HUM course or C.I. Development of Medieval thought and culture with emphasis on Philosophy, Religion, Literature and Art. *Occasional.*

HUM 3460 CAH-PHIL 3(3,0)
Latin American Humanities: PR: HUM 2210 or HUM 2230. Ideas in cultures of Latin America and Caribbean basin as expressed in arts, architecture, music, philosophy, religion, literature and film. *Occasional.*

HUM 3800 CAH-PHIL 3(3,0)
Research Methods in Humanities: PR: Humanities Major with any prior HUM course or C.I. Research skills for the humanities, including methodologies, writing techniques, essay structuring, formatting, and methods for citing references and constructing bibliographies. *Occasional.*

HUM 3805 CAH-PHIL 3(3,0)
Critical Theory in the Humanities: PR: Any HUM course, or C.I. Theories of interpreting technologies, texts, and practices, with emphasis on film, visual/performing arts, music, religion, and philosophy. *Occasional.*

HUM 3830 CAH-PHIL 3(3,0)
Introduction to Digital Humanities: PR: Any HUM course or C.I. Investigation of the application of digital tools to humanities questions, and to questions about contemporary life. *Fall.*

HUM 4301 CAH-PHIL 3(3,0)
The Classical Ideal: PR: Any 3000-level HUM course or C.I. The search for order and form in the arts of various times and cultures. Concerns reason, structure, objectivity, harmony. Open to all Juniors and Seniors. *Spring.*

HUM 4330 CAH-PHIL 3(3,0)
Performance Theory: PR: Any 3000-level HUM course, or C.I. Traditional and contemporary theories of performance with a focus on linguistic performatives, bodily and virtual performances, self-identity, and the politics of performance. *Occasional.*

HUM 4394 CAH-PHIL 3(3,0)
Place and Space: PR: HUM 2230 or C.I. Phenomenological, symbolic, constructivist, and determinist approaches to personal and social place and space. *Occasional.*

HUM 4459 CAH-PHIL 3(3,0)
American Cultural Studies in Humanities: PR: Any 3000-level HUM course, or C.I. Theories of culture intersecting race, class, gender, migration, ability, and national identity in North America. *Occasional.*

HUM 4823 CAH-PHIL 3(3,0)
Queer Theory in the Humanities: PR: Any 3000-level HUM course or C.I. Developments in queer theory. Challenge to research by scholars, activists, performers, and visual artists. *Occasional.*

HUM 4826 CAH-PHIL 3(3,0)
Postcolonial Theory: PR: Any 3000-level HUM course or C.I. Interdisciplinary overview of postcolonial philosophy, literature, film, art and cultural theory. *Even Fall.*

HUM 4931 CAH-PHIL 3(3,0)
Key Figures in the Humanities & Cultural Studies: PR: Any 3000-level HUM course or C.I. Study of a central Humanities/Cultural Studies figure's work, influences, reception, and effect. May be repeated for credit only when course content is different. *Occasional.*

HUM 4933 CAH-PHIL 3(3,0)
Senior Research Seminar: PR: Any 3000-level HUM course or C.I. Capstone course on research, developing effective oral and written communication skills. *Spring.*

HUM 4934 CAH-PHIL 3(3,0)
Key Concepts in Humanities & Cultural Studies: PR: Any 3000-level HUM course or C.I. Study of the development, meaning, and implications of a central concept in the Humanities and Cultural Studies. May be repeated for credit only when course content is different. *Occasional.*

HUM 5396 CAH-PHIL 3(3,0)
Place and Space: PR: Graduate standing or C.I. Study of theoretical and applied issues of place and space. *Occasional.*

HUN 2201 HPA-HP 3(3,0)
Fundamentals of Human Nutrition: Functions, roles, guidelines and requirements for nutrients. Includes digestion, absorption, nutrient interactions, effects of deficiencies or toxicities, food sources and weight management. Emphasis is on prevention of disease. *Fall, Spring.*

HUN 3011 CON-NURS 3(3,0)
Human Nutrition: PR: or CR: ZOO 3733C and CHM 1032 or C.I. Essentials of nutrition related to the life cycle, including the physiological, psychosocial, and cultural aspects of nutrition and the inter-relationship with disease are emphasized. *Fall, Spring.*

HUN 3013 RCHM-FOOD&LODG 3(3,0)
Nutrition Concepts and Issues in the Food Service Industry: PR: FSS 2221C or C.I. Introduces basic nutrition concepts. Discusses nutrition concepts and concerns in relation to food preparation and service in the hospitality industry. *Occasional.*

HUN 5247 HPA-HP 3(3,0)
Principles of Human Nutrition: PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. Course promotes in-depth understanding of the role of macronutrients in human nutrition and health enabling graduates to integrate knowledge into other aspects of their work. *Occasional.*

IDC 5602 GRDST-INTERDIS 3(3,0)
Cybersecurity: A Multidisciplinary Approach: PR: Graduate standing or C.I. Interdisciplinary M&S fundamentals as applied to cybersecurity including operating system installation and administration for hardware, network architectures, configurations, behavioral aspects, organizational continuity planning, security management. *Fall.*

UCF Courses and Descriptions

IDH 1920H BHC-HON 2(2,1)
Honors Symposium I: PR: Permission of Honors. Readings, lectures, discussions, and laboratories covering aspects of scholarship and service learning. Graded S/U. *Fall*.

IDH 1921H BHC-HON 2(2,0)
Honors Symposium II: PR: IDH 1920H. Readings, lectures and discussions covering aspects of scholarship, artistic, and other creative efforts. Graded S/U. *Spring*.

IDH 3101H BHC-HON 3(3,0)
Honors Cultural Traditions of India: PR: Consent of Honors. Integrative background of Indian culture, philosophy and art. Instruction on music, yoga, dance and Indian fine arts. *Fall, Spring*.

IDH 3600H CAH-PHIL 3(3,0)
Honors Case Studies in Ethics: PR: Permission of Honors or C.I. A case-study approach to contemporary ethical issues. Students will apply critical thinking skills and ethical theories to interdisciplinary problems and will participate in team debates. With Honors content. *Fall*.

IDH 4030H BHC-HON 1(3,0)
Honors Windows To The World: PR: Permission of Honors and IDH 1921H, enrolled in Accelerated Pre-med Program; or C.I. Students will cultivate an active sense of the liberal arts and sciences as they prepare for prestigious scholarships and graduate school. Graded S/U. May be repeated for credit. *Occasional*.

IDS 3150 UGST-INTERDISC 3(3,0)
Foundations of Environmental Studies: PR: Junior standing, complete equivalent of UCF Science and Math GEP. An overview of the approaches taken by different disciplines to address regional, national, and global environmental issues. *Spring*.

IDS 3333 UGST-INTERDISC 3(3,0)
World Comparative Studies: PR: ENC 1102 or C.I. Comparative study of cultures, economies, languages, and social systems using approaches and data from multiple disciplines. *Occasional*.

IDS 3933 UGST-INTERDISC 3(3,0)
Cornerstone Experience: PR: ENC 1102, Junior standing, Interdisciplinary Studies major, or C.I. Interdisciplinary study essentials, including basic concepts and methodological tools, to synthesize material from disparate fields and apply them to academic plans and career goals. *Fall, Spring*.

IDS 4204C ECS-ECS 3(2,2)
Advanced Topics on Energy and Sustainability: PR: Acceptance into the Energy and Sustainability Minor, Senior standing and Completion of GEP or C.I. Contemporary topics in energy and sustainability. Seminars and lectures from industry, academia, government, and UCF speakers. Students are required to work on individual or team assignments, research projects, and present their work in the format of mini seminars. *Occasional*.

IDS 4934 UGST-INTERDISC 3(3,0)
Capstone Experience: PR: IDS 3933, Junior standing, and Interdisciplinary Studies major, or C.I. Student exposition of coursework demonstrating the understanding of interdisciplinary approaches and successful synthesis of interdisciplinary studies, applied to the course of study and academic/career goals. *Fall, Spring*.

IDS 5127 COM-BSBS 3(3,0)
Foundation of Bio-Imaging Science: PR: Graduate standing. Fundamental theory, design, and practice of modern bio-imaging techniques used for basic biomedical research applications. *Occasional*.

INP 3004 COS-PSYCH 3(3,0)
Industrial/Organizational Psychology: PR: PSY 2012. Psychological theories and principles applicable to problems in industrial organizations. *Fall, Spring*.

INP 3004H COS-PSYCH 3(3,0)
Honors Industrial/Organizational Psychology: PR: PSY 2012 and consent of Honors. Psychological theories and principles applicable to problems in industrial organizations. With Honors content. *Occasional*.

INP 3141C COS-PSYCH 1-3(0,3-9)
Advanced Applied Psychology: PR: PSY 2012 and C.I. Course will explore application of psychological knowledge to clinical, experimental, industrial, or educational settings. Supervised laboratory experience is required. Graded S/U. May be repeated for credit. *Fall, Spring*.

INP 3951 COS-PSYCH 3(0,10)
Industrial/Organizational Field Work: PR: C.I. An opportunity for advanced undergraduate psychology majors to become involved in the application of I/O psychology to local organizations. *Occasional*.

INP 4313 COS-PSYCH 3(3,0)
Organizational Psychology: PR: PSY 2012. Analysis of the psychological principles underlying individual and group behavior in an organizational setting. Topics include group dynamics, leadership and participation, intergroup behavior, and organization development. *Fall*.

INP 4380 COS-PSYCH 3(3,0)
Psychology of Teamwork: PR: PSY 2012 or C.I. Dynamics of small groups and teams from social and applied psychology perspectives. *Occasional*.

INP 5825 COS-PSYCH 3(3,0)
Human-computer Interface (HCI) design: A team approach: PR: Graduate status or senior standing or C.I. Interdisciplinary approach to human-computer interface design, including behavior, engineering, computer science, and instructional aspects. Tools and techniques for team development and the evaluation of software for usability. *Occasional*.

INR 2002 COS-POLS 3(3,0)
International Relations-Theory and Practice: PR: ENC 1102 or C.I. Analysis of the fundamental principles and factors affecting interstate relations and their application to contemporary global developments. *Fall, Spring*.

INR 3016 COS-POLS 3(3,0)
Global Political Issues: PR: POS 2041 or C.I. Current global political topics from political development and income gap to gender issues and environmental challenges. *Occasional*.

INR 3250 COS-POLS 3(3,0)
Politics of Pan-Africanism: PR: INR 2002. Political expressions of Pan-Africanism throughout the major regions of the African Diaspora. *Occasional*.

INR 3253 COS-POLS 3(3,0)
International Politics of Africa: PR: ENC 1102 or POS 2041 or C.I. The broad structures and processes of international politics and foreign policy in Africa, with particular attention on U.S.-African relations. *Occasional*.

INR 4008 COS-POLS 3(3,0)
Global Perspectives: PR: ENC 1102 or C.I. The historical and contemporary contexts of globalization. *Fall, Spring*.

INR 4011 COS-POLS 3(3,0)
Politics of Globalization: PR: ENC 1102 or POS 2041 or C.I. Major political causes and consequences of globalization. *Occasional*.

INR 4030 COS-POLS 3(3,0)
Diplomacy: PR: ENC 1102 or POS 2041 or C.I. Concepts, theories, and methods of contemporary diplomacy; diplomatic processes in the international arena. *Spring*.

INR 4030H COS-POLS 3(3,0)
Honors Diplomacy: PR: POS 2041 and consent of Honors. Concepts, theories, and methods of contemporary diplomacy; diplomatic processes in the international arena. *Occasional*.

INR 4035 COS-POLS 3(3,0)
International Political Economy: PR: ENC 1102 or POS 2041 or C.I. The international politics of regional and global economic interdependence, with emphasis upon North-South relations, the New International Economic Order, OPEC, and multinational corporations. *Odd Spring*.

INR 4054 COS-POLS 3(3,0)
Global Politics of Energy: PR: ENC 1102 or POS 2041 or C.I. International/national dimensions of global energy policy within developed and underdeveloped countries. *Occasional*.

INR 4060 COS-POLS 3(3,0)
Causes of War: PR: ENC 1102 or POS 2041 or C.I. The primary theoretical and empirical research explaining militarized interstate conflict. *Fall*.

INR 4063 COS-POLS 3(3,0)
The Cold War: PR: ENC 1102 or POS 2041 or C.I. Politics of US-Soviet relations emphasizing the Cold War including the global impact of the Cold War, and prospects for post-Cold War international politics. *Occasional*.

INR 4074 COS-POLS 3(3,0)
Immigration Policy: PR: ENC 1102 or POS 2041 or C.I. Analysis of the complex subject of immigration, including U.S. and comparative immigration policy, illegal immigration, alien smuggling, and statelessness and their political/security impact. *Occasional*.

INR 4075 COS-POLS 3(3,0)
Human Rights Policy: PR: ENC 1102 or POS 2041 or C.I. Meaning of human rights, political and international implications of human rights policies, relationship to global peace, racism, gender inequality, economic development and democratization. *Spring*.

INR 4076 COS-POLS 3(3,0)
Global Drug Policy: PR: ENC 1102 or POS 2041 or C.I. International drug control issues, policy formulation and enforcement, impact of government and political economic systems on drug policy. Selected Latin American and Third World cases. *Odd Spring*.

INR 4083 COS-POLS 3(3,0)
War and Violent Politics: PR: POS 2041 or C.I. The theoretical and practical disciplinary debates on war and related phenomena, including civil war, genocide, and riots. *Occasional*.

INR 4084 COS-POLS 3(3,0)
Politics of International Terrorism: PR: ENC 1102 or POS 2041 or C.I. Nature and politics of terrorism with primary focus on its implications for international relations. *Occasional*.

INR 4085 COS-POLS 3(3,0)
Women, Gender, and Globalization: PR: ENC 1102 or POS 2041 or C.I. Feminist and gender perspectives in International Relations, Globalization, and International Political Economy. *Occasional*.

INR 4102 COS-POLS 3(3,0)
American Foreign Policy: PR: ENC 1102 or POS 2041 or C.I. Development of American foreign policy, with emphasis on the role and policies of the United States in the contemporary world. *Odd Fall*.

INR 4104 COS-POLS 3(3,0)
Topics and Cases in American Foreign Policy: PR: ENC 1102 or POS 2041 or C.I. General or intensive analysis of problems or aspects of U.S. foreign policy. Issues may include September 11th, homeland security, counter-terrorism, policymaking and decision-making and intelligence. *Odd Spring*.

INR 4114 COS-POLS 3(3,0)
American Security Policy: PR: ENC 1102 or POS 2041 or C.I. Study of the evolution of American security policy since World War II, including consideration of the social and political costs involved and means of control. *Occasional*.

INR 4115 COS-POLS 3(3,0)
Strategic Weapons and Arms Control: PR: ENC 1102 or POS 2041 or C.I. Control of strategic weapons and their impact. Technological and policy aspects, including nuclear proliferation. *Occasional*.

INR 4116 COS-POLS 3(3,0)
America's 21st Century Wars: PR: POS 2041 or C.I. The causes, conduct, and consequences of the US wars in Iraq and Afghanistan. *Occasional*.

INR 4224 COS-POLS 3(3,0)
Contemporary International Politics of Asia: PR: ENC 1102 or POS 2041 or C.I. Examinations of the foreign policies of major and secondary powers in Asia, with particular attention to China and Japan. *Occasional*.

UCF Courses and Descriptions

INR 4225 COS-POLS 3(3,0)
The Vietnam War: PR: POS 2041 or INR 2002, or C.I. Background of events leading to America's involvement in Indochina, the course of the Vietnam War, and the lessons which that war imparts. *Occasional.*

INR 4243 COS-POLS 3(3,0)
International Politics of Latin America: PR: ENC 1102 or POS 2041 or C.I. Study of contemporary U.S.-Latin American relations, interAmerican politics and organization, and the role of Latin America in the world. *Occasional.*

INR 4274 COS-POLS 3(3,0)
International Politics of the Middle East: PR: Either INR 2002, CPO 3103 or POS 2041. Examines foreign relations among Middle Eastern states and related actors, including, but not limited to, the great powers of the world. *Occasional.*

INR 4304 COS-POLS 3(3,0)
Issues in International Public Policy: PR: ENC 1102 or POS 2041 or C.I. Endogenous and exogenous variables, including policy analysis and decision-making, which influence select international public policy issues. *Occasional.*

INR 4333 COS-POLS 3(3,0)
International Security: PR: POS 2041 or C.I. The security relations and problems of nation states. *Occasional.*

INR 4335 COS-POLS 3(3,0)
Coercion in International Politics: PR: ENC 1102 or POS 2041 or C.I. Examination of the role of coercive techniques among states in a nuclear age, ranging from nuclear strategy and deterrence to wars of national liberation and coups. *Even Fall.*

INR 4350 COS-POLS 3(3,0)
Global Environmental Politics: PR: ENC 1102 or POS 2041 or C.I. The unique environmental struggles and political issues that occur on the international and global levels. *Fall.*

INR 4351 COS-POLS 3(3,0)
International Environmental Law: PR: ENC 1102 or POS 2041 or C.I. Examination of global efforts to establish a treaty regime for environmental protection of earth's biosphere when challenged by national sovereignty and economic and cultural diversity. *Occasional.*

INR 4363 COS-POLS 3(3,0)
Intelligence Analysis and Reporting: PR: POS 2041 or INR 2002 or ENC 1102. Foreign intelligence analysis and its interaction with organizations, politics, and psychology to shape political decisions. *Occasional.*

INR 4364 COS-POLS 3(3,0)
The Intelligence Community: PR: ENC 1102 or POS 2041 or C.I. The intelligence community structure in its relationship to foreign policy decision making, consideration of control and reliability questions, and issues of cooperation and coordination. *Spring.*

INR 4401 COS-POLS 3(3,0)
International Law: PR: ENC 1102 or POS 2041 or C.I. The nature, evolution, and sources of international law and examination of various sub-areas as recognition, maritime law, nationality, and war. *Fall.*

INR 4404 COS-POLS 3(3,0)
Space Law: PR: Junior standing, or C.I. Examination of the legal regime of outer space from both international and national perspectives, and the legal problems arising from human activity in space. *Occasional.*

INR 4502 COS-POLS 3(3,0)
International Organizations: PR: ENC 1102 or POS 2041 or C.I. The study of the structure and workings of international organizations of cooperation, including the UN, its affiliates, and various regional organizations. *Even Fall, Odd Spring.*

INR 4603 COS-POLS 3(3,0)
International Relations Theory: PR: ENC 1102 or POS 2041 or C.I. Theoretical trends prevalent in the study of international relations, including realism, liberalism, Marxism, feminism, and post-modernism. *Fall, Spring.*

INR 4714 COS-POLS 3(3,0)
Politics of International Trade Policy: PR: ENC 1102 or POS 2041 or C.I. Key actors and processes of international trade policy-making at the sub-national, nation-state, regional, and global levels of analysis. *Occasional.*

INR 4744 COS-POLS 3(3,0)
Militaries in World Politics: PR: POS 2041, or INR 2002, or C.I. Civil-military relations and its relevance to international relations and comparative politics. *Occasional.*

INR 4764 COS-POLS 3(3,0)
Cyberwarfare Policy: PR: POS 2041 or ENC 1102 or INR 2002 or C.I. How nations, groups and individuals throughout the world use internet/cyber-attacks for military, political, and economic gains over their adversaries. *Occasional.*

INR 4765 COS-POLS 3(3,0)
Emerging Space Powers: PR: POS 2401, or C.I. Examination of states' efforts to develop space technologies for purposes of economic, social and military development. *Occasional.*

INR 4774 COS-POLS 3(3,0)
Military Space Policy: PR: ENC 1102 or POS 2041 or C.I. Politics and policymaking involved in militaries globally, consideration of effects on globalization and international policies economic and military. *Occasional.*

INR 4933H COS-POLS 3(3,0)
Honors Human Trafficking: PR: INR 2002 or C.I. An interdisciplinary Honors seminar designed to help students gain a better understanding of contemporary human trafficking, also known as slavery and forced servitude. *Occasional.*

ISC 2054 COS-MATH 1(2,0)
STEM Seminar I: PR: Admission to an iSTEM sponsored program. Study skills, faculty networking, exposure to STEM professionals. Graded S/U. *Fall.*

ISC 2055 COS-MATH 1(2,0)
STEM Seminar II: PR: Admission to iSTEM sponsored program. Study skills, faculty networking, exposure to STEM professionals, STEM shadowing experience. Graded S/U. *Spring.*

ISC 2215 COS-MATH 1(3,0)
Interdisciplinary Applications of Calculus I: CR: MAC 2311C. Interdisciplinary applications of differential and integral calculus topics in MAC 2311C to the solution of concrete problems in science, mathematics, and engineering disciplines. *Fall.*

ISC 2216 COS-MATH 1(3,0)
Interdisciplinary Applications of Calculus II: CR: MAC 2312. Interdisciplinary applications of differential and integral calculus topics in MAC 2312 to the solution of concrete problems in science, mathematics, and engineering disciplines. *Spring.*

ITA 1120C CAH-LANG 4(3,1)
Elementary Italian Language and Civilization I: Introduces the student to Italian culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. *Fall, Spring.*

ITA 1121C CAH-LANG 4(3,1)
Elementary Italian Language and Civilization II: PR: ITA 1120C or equivalent. Continuation of ITA 1120C. *Fall, Spring.*

ITA 2200 CAH-LANG 3(3,0)
Intermediate Italian Language and Civilization I: PR: ITA 1121C or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar, study of syntax, idiomatic expression, extensive readings, and further study of Italian culture. *Fall.*

ITA 2201 CAH-LANG 3(3,0)
Intermediate Italian Language and Civilization II: PR: ITA 2200 or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar and study of syntax, with emphasis on Italian civilization. *Occasional.*

ITA 3420 CAH-LANG 3(3,0)
Italian Composition: PR: ITA 2201 or equivalent. Development of skills in composition, with an introduction to Italian culture. *Spring.*

ITA 3440 CAH-LANG 3(3,0)
Italian for Business: PR: ITA 2200. Italian language for business purposes. *Occasional.*

ITA 3472 CAH-LANG 3(3,0)
Renaissance Art Abroad: PR: Junior standing. A study of Renaissance art from Giotto to Michelangelo. *Occasional.*

ITA 3564 CAH-LANG 3(3,0)
Modern Italian Culture: PR: ITA 2200 or C.I. Modern Italian culture (1920s through today) through literature, film, and mass media. *Spring.*

ITA 3760 CAH-LANG 3(3,0)
Advanced Italian Oral Communication: PR: ITA 2201 or equivalent. Vocabulary building with systematic training in diction and locution. Speeches and oral presentations as well as production and delivery of real-life dialogues. *Fall.*

ITA 4280 CAH-LANG 3(3,0)
Italian Syntax Abroad: PR: ITA 3420. A study of Italian Syntax for advanced students of Italian. *Occasional.*

ITT 3301 CAH-LANG 3(3,0)
Italian & Italian American Women's Literature: PR: ENC 1102 or C.I. Novels and short stories by some major Italian and Italian-American women writers. *Occasional.*

ITT 3443 CAH-LANG 3(3,0)
Dante's Inferno: PR: ITW 3100. An in-depth study of Dante's Inferno. In English. *Occasional.*

ITT 3480 CAH-LANG 3(3,0)
Italian Literature in Translation: PR: ITA 2201 or C.I. Main literary tendencies and authors of Italian literature. *Occasional.*

ITT 4300 CAH-LANG 3(3,0)
From Italy to America: PR: ITW 3101 or C.I. The course connects Italy and the US, their history and culture. *Occasional.*

ITT 4956 CAH-LANG 3(3,0)
Study Abroad: Modern and Contemporary Italian Culture: PR: Junior standing and C.I. Modern and contemporary Italian culture in the natural environment. *Occasional.*

ITT 4957H CAH-LANG 3(3,0)
Honors Italian Literature in Translation: PR: ENC 1102 and consent of Honors. Main literary tendencies and authors of Italian Literature, with honors content. *Occasional.*

ITW 3100 CAH-LANG 3(3,0)
Survey of Italian Literature I: PR: ITA 2201. Main currents and writers in Italian literature from the 12th through the 15th centuries. *Occasional.*

ITW 3101 CAH-LANG 3(3,0)
Survey of Italian Literature II: PR: ITA 2201. Main currents and writers in Italian literature from the 15th century to the present. *Occasional.*

ITW 3373 CAH-LANG 3(3,0)
The Modern Italian Short Story: PR: ITA 2201 or C.I. Selection of short stories written by the most significant Italian writers of the 20th century. *Even Fall.*

JOU 2100C COS-COMM 3(3,1)
News Reporting: PR: Com pending, or Journalism Major, or Magazine Journalism Minor and meet grammar proficiency requirement. Newsgathering and writing for the mass media. *Fall, Spring.*

JOU 3004 COS-COMM 3(3,0)
History of American Journalism: Development of mass media, leading innovators, and the media's role in the nation's history. *Fall, Spring.*

UCF Courses and Descriptions

JOU 3015 COS-COMM 3(3,0)
Principles of Journalism: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. Introduces principles of the journalism industry and lays the foundation for other upper-level journalism courses. *Fall, Spring.*

JOU 3101 COS-COMM 3(3,0)
Advanced Reporting: PR: Journalism major or Magazine Journalism minor and a minimum grade of "C" (2.0) in JOU 2100C. Advanced information-gathering and development of news writing skills. *Fall, Spring.*

JOU 3130 COS-COMM 3(3,0)
In-Depth Reporting: PR: Journalism major and JOU 2100C, or C.I. Writing with analysis, using detail, description, and demographics. *Occasional.*

JOU 3184C COS-COMM 3(2,1)
Metro Reporting: PR: Journalism major and a minimum grade of "C" (2.0) in JOU 2100C. Coverage of several important news beats in a metropolitan area. *Spring.*

JOU 3201 COS-COMM 3(3,0)
Editing I: PR: Meet grammar proficiency requirement with "A-" or higher in ENC 1101 and ENC 1102, or complete Grammar Proficiency test. Editing copy, writing headlines, managing newsroom operations. *Fall, Spring.*

JOU 3202 COS-COMM 3(3,0)
Editing II: PR: Journalism major or Magazine Journalism minor, a minimum grade of "C" (2.0) in JOU 3201, and a minimum grade of "C" (2.0) in JOU 2100C. Practical aspects of editing. *Occasional.*

JOU 3301 COS-COMM 3(3,0)
Journalism Readings: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. Concepts of literary journalism, designed to enhance understanding and evaluation techniques used by journalists. *Occasional.*

JOU 3310 COS-COMM 3(3,0)
Social Media Writing for Magazines: PR: JOU 2100C or PUR 3100. Social media writing for traditional magazines and journalism-based "zines. Students will learn about the practices of social media writing and create their own blogs based on journalism practices. *Fall.*

JOU 3313C COS-COMM 3(2,1)
Sports Reporting: PR: Journalism major and a minimum grade of "C" (2.0) in JOU 2100C. Covering sports for the media; issues, principles, and practices. *Occasional.*

JOU 3510 COS-COMM 3(3,0)
Magazine Publishing: PR: Journalism major or Magazine Journalism minor, and a minimum grade of "C" (2.0) in JOU 2100C. The magazine industry, emphasizing business operations and current topics. *Fall.*

JOU 3912 COS-COMM 3(3,0)
Collaborative Experiential Research Practicum: PR: Either SPC 1608, SPC 1603C or COM 1000, and C.I. Students will work as research assistants in a team, under faculty supervision, and learn first-hand the process of conducting communication/social scientific research. May be used in the degree program a maximum of 2 times. *Occasional.*

JOU 3951 COS-COMM 3(3,0)
Knightly Latino: Spanish Language News: PR: JOU 2100C and RTV 3321, or C.I. Focuses on the production of a weekly Spanish campus webcast. Daily newsgathering and production decisions are conducted by students under the advisement of the instructor. *Fall, Spring.*

JOU 4181 COS-COMM 3(3,0)
Public Affairs Reporting: PR: Journalism major, and a minimum grade of "C" (2.0) in JOU 2100C and a minimum grade of "C" (2.0) in JOU 3184C or JOU 3101. Reporting on city, county and state government. *Occasional.*

JOU 4211C COS-COMM 3(2,1)
Informational Graphics: PR: Journalism major and a minimum grade of "C" (2.0) in JOU 2100C. Use of boxes, charts and graphics in the print media. *Occasional.*

JOU 4213C COS-COMM 3(2,1)
Page Design: PR: Journalism major and JOU 3201. Designing news pages, including stories, headlines, and other content. *Fall, Spring.*

JOU 4300 COS-COMM 3(3,0)
Feature Writing: PR: Journalism major or Magazine Journalism minor, and a minimum grade of "C" (2.0) in JOU 2100C. Writing feature articles for newspapers and magazines. *Fall, Spring.*

JOU 4306C COS-COMM 3(1,2)
Critical Writing: PR: Journalism major or Magazine Journalism minor. Writing reviews of movies, plays, television programs, concerts, books, and other cultural works. *Occasional.*

JOU 4308 COS-COMM 3(3,0)
Freelance Writing: PR: Journalism major or Magazine Journalism minor. A study of the techniques and procedures of freelance writing, including the preparation of several manuscripts. *Occasional.*

JOU 4340C COS-COMM 3(1,3)
Online Journalism I: PR: Journalism major and a minimum grade of "C" (2.0) in JOU 2100C. The development, impact and problems of using the Internet as a journalistic tool. Write and design news for the Web. *Occasional.*

JOU 4341C COS-COMM 3(1,3)
Online Journalism II: PR: JOU 4340C. Study, design, and development of online journalism materials. *Occasional.*

JOU 4342C COS-COMM 3(2,1)
Multimedia Journalism: PR: Journalism major and a minimum grade of "C" (2.0) in JOU 2100C and MMC 3200, and Senior standing. Combining print and electronic technologies to transmit information to the public. *Fall, Spring.*

JOU 4447 COS-COMM 3(3,0)
Magazine Editing and Production: PR: Journalism major or Magazine Journalism minor, and a minimum grade of "C" (2.0) in JOU 2100C. Magazine production, including writing and editing skills, and editorial requirements. *Spring.*

JOU 4700 COS-COMM 3(3,0)
Journalism Ethics: PR: MMC 3200. Ethical problems, codes, and practices in newsrooms. *Fall, Spring.*

JOU 4950 COS-COMM 4(4,0)
Senior Capstone in Journalism: PR: JOU 3101, JOU 4340, or JOU 4342, or C.I. Advanced techniques in multimedia news gathering and reporting for a daily web publication as part of a capstone experience in journalism. *Fall, Spring.*

JPN 1120C CAH-LANG 4(3,1)
Elementary Japanese Language and Civilization I: Introduces the student to Japanese culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in the language. *Fall.*

JPN 1121C CAH-LANG 4(3,1)
Elementary Japanese Language and Civilization II: PR: JPN 1120C or equivalent. Continuation of JPN 1120C. *Spring.*

JPN 2200 CAH-LANG 3(3,1)
Intermediate Japanese Language and Civilization I: PR: JPN 1121C or equivalent. This course aims to aid in acquiring and refining the acquisition of the four skills in modern Japanese: speaking, listening, reading, and writing. The emphasis is on accurate communication in Japanese. The culture of Japan will also be studied. *Fall.*

JPN 2201 CAH-LANG 3(3,1)
Intermediate Japanese Language and Civilization II: PR: JPN 2200 or equivalent. Continuation of JPN 2200 with emphasis on Japanese civilization. *Spring.*

JPN 2952 CAH-LANG 3(3,0)
Japanese Cultural Studies Abroad: PR: JPN 1120C and JPN 1121C. Japanese culture through key elements of Japanese life and comprehensive exposure of various aspects of their material cultural heritage. Conducted in Japanese. *Occasional.*

JPN 3760 CAH-LANG 3(3,0)
Advanced Japanese Conversation: PR: JPN 1121C or equivalent proficiency. Communication in conversational Japanese to enhance knowledge of the sound changes, speech functions and styles in verbal discourse. *Occasional.*

JST 3005 CAH-JUD 3(3,0)
Tenets of Judaism: PR: ENC 1101 and ENC 1102. Values, practices, and beliefs that define Judaism. *Occasional.*

JST 3100 CAH-JUD 3(3,0)
The Hebrew Bible as Literature: PR: ENC 1102. A survey of the creative expression of Hebrew civilization as found in the Hebrew Bible, and its interpretation in the Apocrypha and Pseudepigrapha, the Mishnah and the Talmud. *Occasional.*

JST 3120 CAH-JUD 3(3,0)
Hebrew Scriptures: PR: ENC 1102, Junior standing. The Hebrew Bible (Old Testament, in translation) in historical, social, religious, cultural and literary contexts. *Occasional.*

JST 3121 CAH-JUD 3(3,0)
Classic Texts of Judaism: PR: ENC 1102. Scriptures, post-Biblical Rabbinic writings, Exegesis, Apocrypha, Qumran documents, Mishnah, Talmud, the Siddur, as well as Jewish mystical writings. *Occasional.*

JST 3125 CAH-JUD 3(3,0)
The Book of Job: PR: Jr standing, ENC 1102. A textual-thematic study of Book of Job in English translation, exploring the Book of Job as literature, theodicy and ethics. *Occasional.*

JST 3126 CAH-JUD 3(3,0)
Romantic Love in the Bible: PR: ENC 1102, Junior standing. The dimensions of romantic love in the Hebrew Bible, focusing on the depiction of human feelings of love and relationship; the nature of man-woman interactions in ancient Israel. *Occasional.*

JST 3144 CAH-JUD 3(3,0)
Dead Sea Scrolls: PR: Junior standing or C.I. The Dead Sea Scrolls, their literary and historical context, and significance. *Occasional.*

JST 3149 CAH-JUD 3(3,0)
Judaism and Jesus: PR: ENC 1102 or C.I. Examines the implications of the "historical Jesus" and early Christianity on the Jewish people, particularly late antiquity and the Second Jewish Commonwealth. *Occasional.*

JST 3190 CAH-JUD 3(3,0)
The Biblical Prophets: PR: ENC 1102. Writings of the biblical prophets, Isaiah, Jeremiah and Ezekiel against the backdrop of their times. *Occasional.*

JST 3210 CAH-JUD 3(3,0)
Kabbalah: Jewish Mysticism: PR: ENC 1102. Jewish mysticism from its early roots in the prophetic age through the flowering of Kabbalah in medieval Spain and the land of Israel, with its texts and the Zohar. *Occasional.*

JST 3312 CAH-JUD 3(3,0)
Identity and Genre: PR: ENC 1102 or C.I. Jewish and Hebrew literature as related to the intellectual quest for Jewish identity and modernism in the 18th and 19th centuries. *Occasional.*

JST 3401 CAH-JUD 3(3,0)
Jewish People in Antiquity: PR: ENC 1102. History and culture of the Jewish people from the beginnings of Judaism in the biblical era through the Graeco-Roman and rabbinic periods. *Fall.*

JST 3402 CAH-JUD 3(3,0)
Wanderings: The Jewish People in Dispersion: PR: ENC 1102. The life and history of the Jews in the medieval and modern worlds. *Spring.*

JST 3415 CAH-JUD 3(3,0)
American Jewish History: PR: ENC 1102. Jewish presence in America and its influence on and contribution to American life and culture. *Occasional.*

JST 3417 CAH-JUD 3(3,0)
Sephardi Jews: History, Culture, and Folklore: PR: ENC 1102. Study of Sephardi Jews (Jews originated from Spain) as dispersed in Europe and the Middle East following the Expulsion from Spain in 1492. *Even Spring.*

UCF Courses and Descriptions

JST 3424 CAH-JUD 3(3,0)
Biblical Archaeology: PR: ENC 1102. Examines archaeological excavations in Israel and the ancient Near East to shed light on events and stories recorded in the Bible. *Occasional.*

JST 3450 CAH-JUD 3(3,0)
Modern Jewish Experience: PR: ENC 1102 or C.I. Reading in literature depicting the modern Jewish experience in the past 150 years in the Jewish transition from ghetto and traditional life to modernity in Europe, America and pre-state Israel *Occasional.*

JST 3481 CAH-JUD 3(3,0)
20th Century Jewish History and Thought: PR: ENC 1102 or C.I. Study of philosophers such as Buber, Rosenzweig, Kaplan, Heschel, Borowitz, Soloveichik, within the historical context of European immigration to the U.S. *Occasional.*

JST 3510 CAH-JUD 3(3,0)
Notable Women in Jewish History: PR: ENC 1102 or C.I. Historical and cultural role of exceptional women in Judaism. *Occasional.*

JST 3514 CAH-JUD 3(3,0)
Great Minds that Shaped Jewish History: PR: ENC 1101 or C.I. Great minds that shaped Jewish history from antiquity to the Modern Age will be explored. Also their philosophy and theology will be studied. *Occasional.*

JST 3550 CAH-JUD 3(3,0)
Introduction of Modernism into Judaism: The transition from traditional Judaism to modern Judaism in the 18th century, as epitomized by Moses Mendelssohn and writers of the Jewish Enlightenment (in translation). *Occasional.*

JST 3551 CAH-JUD 3(3,0)
The Holy and the Profane: The Introduction of Secularism into Modern Judaism: PR: ENC 1102 or JST 3401 or JST 3402. Examines cultural, religious, and social processes from traditional Judaism to the beginning of secularism in 18th-19th century European Jewry by studying Hebrew & Jewish Enlightenment. *Occasional.*

JST 3620 CAH-JUD 3(3,0)
Contemporary Jewish Ethics and Morality: PR: ENC 1102. Moral concerns using the resources of the classical Judaic tradition. *Occasional.*

JST 3701 CAH-JUD 3(3,0)
History of the Holocaust: A comprehensive study of the Holocaust from 1933-1945, discussing the persecution of German Jews and the annihilation of the Jews in Europe. *Occasional.*

JST 3751 CAH-JUD 3(3,0)
Literature of the Holocaust: A study of the traumatic experience of the Holocaust in Europe as expressed and depicted in contemporary Jewish and Hebrew Literature. *Occasional.*

JST 3803 CAH-JUD 3(3,0)
The Israeli Experience in Short Stories: PR: ENC 1102. The Israeli experience in contemporary short stories. Themes include Judaism - Past & Present; War & Peace; Society; the Holocaust; the Kibbutz and Israeli reality. *Occasional.*

JST 3810 CAH-JUD 3(3,0)
The Jewish National Movement and Roots of Zionism: Roots of Zionism and Jewish nationalism and their relationship to modern anti-semitism, through analysis of European Jewish history and society. *Occasional.*

JST 3820 CAH-JUD 3(3,0)
Modern Israeli Culture: PR: ENC 1102. Development of the State of Israel: Political and ideological struggle for the establishment of the State of Israel, with emphasis on forces which shaped contemporary Israeli society and politics. *Occasional.*

JST 3821 CAH-JUD 3(3,0)
Israel: Start-Up Nation: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Development of Israel as a nation, including elements of nation building, the role of religion, culture, science, hi-tech and higher education. *Occasional.*

KOR 1120C CAH-LANG 4(4,0)
Elementary Korean Language and Civilization I: Beginning language course for those who have no prior or very limited knowledge in Korean. *Fall.*

KOR 1121C CAH-LANG 4(4,0)
Elementary Korean Language and Civilization II: PR: KOR 1120C. Continuation of KOR 1120C designed as a beginning language course for those who have no prior or limited knowledge Korean Language. *Spring.*

LAE 3414 ED-TL&L 3(3,0)
Literature for Children: PR: Admission to Undergraduate Elementary Education Program or C.I. Criteria for analysis and evaluation of children's literature in terms of interests, needs, and abilities of children. *Fall/Spring.*

LAE 4314 ED-TL&L 3(3,0)
Language Arts in the Elementary School: PR: EDG 4410 or C.I. Content, principles, materials, and techniques involved in teaching, speaking, listening, writing, and spelling in the elementary school; organizing for instruction. *Fall/Spring.*

LAE 4342 ED-TL&L 3(3,0)
Programs in Teaching Language and Composition: PR: EDG 4410; CR: LAE 4360 and LAE 3940. Special programs, strategies and materials for middle and secondary English Language Arts majors. Emphasis on individual needs of students. *Fall.*

LAE 4360 ED-TL&L 3(3,0)
English Instructional Analysis: PR: EDG 4410, EDF 4467, TSL 4080, and LAE 4464. CR: LAE 4342 and LAE 3940. Course objectives for a school curriculum and methods and materials which have special application for teaching English at the middle grades and high school. *Fall/Spring.*

LAE 4361 ED-TL&L 3(3,0)
Literacy Strategies in a Digital Age for Middle and High School: PR: EDG 4410 and EDF 4467. Assists teachers in presenting information using digital literacies, technological innovations and multicultural models of instruction, emphasizing language skills for middle and high school adolescents. *Spring.*

LAE 4464 ED-TL&L 3(3,0)
Survey of Adolescent Literature: PR: ENC 1101 and admission to the college. This course is designed to explore adolescent/young adult literature from an educational and historical perspective. *Spring.*

LAE 4466 ED-TL&L 3(3,0)
Canon, Young Adult Literature and the English Language Arts Curriculum: PR: EDG 4410, TSL 4080. This course focuses on special application for teaching canonical texts while demonstrating the bridge between canonical text and young adult literature for teaching English Language Arts at middle and high school. *Spring.*

LAE 5195 ED-TL&L 3(3,0)
CFWP Teacher Consultant: PR: C.I. This course is designed for Fellows of the CFWP Summer Institute who will plan, practice, and present writing inservice components to public schools. *Occasional.*

LAE 5295 ED-TL&L 1-3(1-3,0)
Writing Workshop: PR: C.I. Students will engage in exploration and practice of effective writing strategies. (May be repeated up to 3 semester hours.) May be repeated for credit. *Occasional.*

LAE 5319 ED-TL&L 3(3,0)
Methods of Elementary School Language Arts: PR: Graduate standing. Principles, procedures, organization and current practices in reading, writing, listening, and talking. *Fall.*

LAE 5337 ED-TL&L 3(3,0)
Literacy Strategies for Middle and Secondary Teaching: PR: EDG 6415 or C.I. Designed to assist teachers and graduate students in understanding the adolescent learner. This course will examine theory, strategies, research, resources and implementation options for effective middle and secondary literacy programs. *Fall/Spring.*

LAE 5338 ED-TL&L 3(3,0)
Teaching Writing in Middle and High School: PR: EDG 6415 or C.I. Techniques and methods in teaching dialects, semantics, and the various grammars within the context of writing. *Fall/Spring.*

LAE 5346 ED-TL&L 3(3,0)
Methods of Teaching English Language Arts: PR: EDG 6415 and TSL 5085 or CI or admission to Initial Teacher Professional Preparation certificate. Designed for alternative certification and Masters of Arts students to explore the strands, methods and materials related to school curriculum in teaching English. *Fall/Spring.*

LAE 5369 ED-TL&L 3(3,0)
Literacy Strategies in a Digital Age for Middle and High School: PR: Admission to graduate program or C.I. Designed to assist teachers in understanding and presenting information using digital literacies, technological innovations, language arts skills and multicultural models of instruction for secondary education. *Spring.*

LAE 5415 ED-TL&L 3(3,0)
Children's Literature in Elementary Education: Survey of children's literature: criteria for selection according to literary elements and child development needs. Methods for presenting to children; integrating literature with elementary curricula. *Spring.*

LAE 5465 ED-TL&L 3(3,0)
Literature for Adolescents: PR: Senior standing or C.I. Selecting and evaluating books for adolescents with emphasis on the use of literature in the development of young people. *Spring.*

LAE 5495 ED-TL&L 3(3,0)
Assessing Writing: PR: C.I. Students will explore a variety of strategies for assessing students' writing including holistic scoring, primary trait scoring, and portfolio assessment. *Spring.*

LAE 5496 ED-TL&L 3(3,0)
Disciplinary Literacy in the Content Areas: PR: Graduate standing. Designed to assist in understanding the adolescent reader and writer, this course will examine theory, strategies, resources, and implementation options of disciplinary literacy specifically in the content areas (Mathematics, Science, Social Studies, and other content areas). *Spring.*

LAH 3130 CAH-HIST 3(3,0)
Latin American History I: PR: EUH 2000 and EUH 2001 or C.I. The Colonial period. *Occasional.*

LAH 3200 CAH-HIST 3(3,0)
Modern Latin America: PR: WOH 2022. Investigates the broader themes of Latin American history from independence to the present. *Occasional.*

LAH 3400 CAH-HIST 3(3,0)
History of Mexico and Central America: PR: EUH 2000 and EUH 2001 or C.I. A survey of Mexican and Central American history from Pre-Columbian times to the present. *Occasional.*

LAH 3470 CAH-HIST 3(3,0)
History of the Caribbean: PR: EUH 2000 and EUH 2001 or C.I. History of Cuba, Puerto Rico, Dominican Republic, and Haiti from Pre-Columbian times to the present. *Occasional.*

LAH 4136 CAH-HIST 3(3,0)
Colonial Florida: PR: AMH 2010 and AMH 2020 or C.I. History of Spanish Colonial Florida until 1821. *Odd Fall.*

LAH 4461 CAH-HIST 3(3,0)
History of Puerto Rico: PR: Any two of the following: AMH 2010, AMH 2020, WOH 2012, or WOH 2022. History of Puerto Rico from pre-Columbian era to present. *Occasional.*

LAH 4480 CAH-HIST 3(3,0)
History of Cuba: PR: Any two of the following: AMH 2010, AMH 2020, WOH 2012, or WOH 2022. History of Cuba from pre-Columbian era to present. *Occasional.*

LAH 4503 CAH-HIST 3(3,0)
History of South America: PR: WOH 2022 or C.I. History of South America by focusing on themes of economic, social, and cultural history in the 19th and 20th centuries. *Occasional.*

LAH 4512 CAH-HIST 3(3,0)
Modern Argentina: PR: WOH 2022. Examines the economic, social, and cultural history of Argentina. *Occasional.*

LAH 4630 CAH-HIST 3(3,0)
History of Modern Brazil: PR: WOH 2022 or C.I. Major themes of the history of modern Brazil (ca. 1750-present). *Occasional.*

LAH 4742 CAH-HIST 3(3,0)
The Mexican Revolution: PR: AMH 2020 or C.I. Political and social history of Mexico since 1910 and domination of one party rule over 70 years. *Occasional.*

LAH 4780 CAH-HIST 3(3,0)
Poverty and Development in Latin America: PR: WOH 2022. Examines the historical reasons for poverty and inequality in 20th century Latin America. *Occasional.*

LAH 5713 CAH-HIST 3(3,0)
Colloquium in U.S.-Latin American Relations: PR: Graduate status or senior standing or C.I. The course will analyze U.S.-Latin American relations from an historical perspective. It will be presented through readings and discussion of selected materials. *Occasional.*

LAH 5920 CAH-HIST 3(3,0)
Colloquium in Latin American History: PR: Graduate standing or C.I. Examines the major themes and historiography of recent works on Latin American history. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

LAS 3002 CAH-LAS 3(3,0)
Topics in Latin American Studies: PR: SPN 1121C or SPN 2200 or equivalent or C.I. Contemporary issues in Latin America including, among others, transformational events in culture, politics, education, and business. *Fall, Spring.*

LAS 3101 CAH-LAS 3(3,0)
Latin American Popular Culture: PR: SPN 1120C and CR: SPN 1121C. Examines folklore and digital media of Latin American culture with a special focus on Mexico, Puerto Rico, and Peru. *Occasional.*

LAS 3220 CAH-LAS 3(3,0)
Brazilian Culture: PR: ENC 1102. Interdisciplinary examination of Brazilian culture through cinema, music, literature, and fine arts. *Spring.*

LAS 4023 CAH-AS 3(3,0)
African Caribbean Experience: PR: ENC 1102 or C.I. Interdisciplinary study of the evolution of African Caribbean culture, its influence on institutions, social and political movements, and contemporary Caribbean society. *Occasional.*

LAS 4910 CAH-LAS 3(3,0)
LAS Capstone: PR: LAS 3002. Research project in Latin American Studies. *Fall, Spring.*

LDR 2001 UGST-INTERDISC 2(2,0)
Foundations of Leadership: PR: Student enrolled in LEAD Scholars, Leadership Studies minor or certificate. Introductory study into the foundations of leadership, including leadership theories and related principles and practices. *Fall.*

LDR 2002 UGST-INTERDISC 2(2,0)
Intermediate Foundations of Leadership: PR: LDR 2001. Intermediate study of leadership practices as related to translating a leadership vision into organizational effectiveness. Builds on the theories in the prerequisite Foundations of Leadership course. *Spring.*

LDR 2262 UGST-INTERDISC 1(0,1)
Focused Volunteer Community Service: Students will engage in volunteer experiences and reflect upon the value of those experiences. Graded S/U. *Fall, Spring.*

LDR 3215 UGST-INTERDISC 2(2,0)
Leadership Through Service: An Advanced Leadership Experience: PR: LDR 2001 and LDR 2002. Theories, processes, and leadership role in social change will be explored, contemporary leadership theories and practices related to citizenship and civic engagement will be studied, and leadership will be practiced in various settings. *Fall.*

LDR 3950 UGST-INTERDISC 2(2,0)
Leadership in Action: Capstone Experience for LEAD Scholars: PR: LDR 3215. Leadership issues and theories, including related principles and practices. Students will develop a professional portfolio, reflect on their course of study, practice public speaking, and articulate their leadership philosophy. *Spring.*

LEI 4266 ED-E&HS 3(1,2)
Outdoor and Leisure Activities: PR: Admission to the Sport and Exercise Science Program or Community Sport and Fitness Minor, and minimum overall 2.5 GPA. Study of contemporary outdoor and leisure activities. Course will include but not be limited to the "adventure activity curriculum," camping, water activities, fishing, orienteering, hiking. *Occasional.*

LIN 3010 CAH-ENG 3(3,0)
Principles of Linguistics: PR: Grade of C (2.0) or better required in ENC 1102. An overview of the modern linguist's approach to language. Analytic methods of phonology, morphology, syntax. Brief systematic survey of dialectology, language acquisition, and semantics. *Occasional.*

LIN 3673 CAH-WRITE 3(3,0)
Rhetorical Grammar: PR: ENC 1102. Focus on learning and practicing grammatical techniques that today's expert writers use to increase rhetorical impact on the reader. *Occasional.*

LIN 3713 HPA-COM SC&DIS 3(3,0)
Language Science: PR: or CR: SPA 3471. Language components, models of language production and comprehension, and theories of language development. *Fall, Spring.*

LIN 3716 HPA-COM SC&DIS 3(3,0)
Language Development: PR: LIN 3713; CR: LIN 3716L. Spoken and written language development from infancy to adulthood. *Fall, Spring.*

LIN 3716L HPA-COM SC&DIS 2(0,2)
Language Development Lab: PR: LIN 3713; CR: LIN 3716. Procedures for sampling, analyzing, and describing language in children and adolescents. *Fall, Spring.*

LIN 4105 CAH-ENG 3(3,0)
History of the English Language: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Study of the English language and its development from Anglo-Saxon to Modern. *Fall, Spring.*

LIN 4600 CAH-WRITE 3(3,0)
Language and Society: PR: Grade of "C" (2.0) or better required in ENC 1102. Examines language and society, including the relationship of sociolinguistic variations to identity and culture. *Occasional.*

LIN 4615 CAH-ENG 3(3,0)
African-American Styles of Communication: PR: Grade of C (2.0) or better required in ENC 1102 and junior standing or C.I. African-American norms contrasted to Anglo-American norms with attention given to speech acts, kinesics, proxemics, paralinguistics, and gender roles. *Occasional.*

LIN 4643 CAH-ENG 3(3,0)
Cross Cultural Communication: PR: Junior standing or C.I., and C (2.0) or better required in ENC 1102. Styles of spoken, written, and nonverbal communication of selected cultural groups. *Occasional.*

LIN 4643H CAH-ENG 3(3,0)
Honors Cross-Cultural Communication: PR: ENC 1102H and permission of Honors. Styles of spoken, written, and nonverbal communication of selected cultural groups with honors level content. *Occasional.*

LIN 4660 CAH-ENG 3(3,0)
Linguistics and Literature: PR: Grade of C (2.0) or better required in LIN 3010 or C.I. Language study as an aid to understanding literature. *Occasional.*

LIN 4680 CAH-ENG 3(3,0)
Modern English Grammar: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Emphasis upon the analysis and comparison of traditional, structural, and transformational grammar. *Spring.*

LIN 4801 CAH-ENG 3(3,0)
Language and Meaning: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. A study of language and meaning in social, civic, cultural, and professional settings. *Occasional.*

LIN 5137 CAH-ENG 3(3,0)
Linguistics: PR: Graduate status or senior standing or C.I. Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics, and para-linguistics. *Occasional.*

LIN 5675 CAH-ENG 3(3,0)
English Grammar and Usage: PR: Graduate status or senior standing or C.I. An overview of modern grammar, including structural, transformational and rhetorical grammar, along with an examination of controversial usage. *Occasional.*

LIT 2110 CAH-ENG 3(3,0)
World Literature I: PR: ENC 1102. Poetry, prose, and drama selected from ancient Hebrew, Greek, and Oriental literature and from that of Renaissance Europe. *Fall, Spring.*

LIT 2120 CAH-ENG 3(3,0)
World Literature II: PR: ENC 1102. Readings from Moliere, Voltaire, Goethe, Pushkin, Balzac, Tolstoy, Ibsen, Mann, Kafka, Camus, and others. *Fall, Spring.*

LIT 3082 CAH-ENG 3(3,0)
Continental European Fiction Since 1900: PR: Grade of C (2.0) or better required in ENC 1102. A selection of significant works of fiction written in various languages during the present century, read in translation. *Occasional.*

LIT 3132 CAH-ENG 3(3,0)
Legend & Literature of King Arthur: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Surveys 1500 years of Arthurian legend and literature, including such authors as Thomas Malory, Chretien de Troyes, and Mark Twain. *Occasional.*

LIT 3192 CAH-ENG 3(3,0)
Caribbean Literature: PR: Grade of C (2.0) or better required in ENC 1102. Traces how Caribbean societies have achieved self-expression through documentary writing, prose fiction, and popular culture; in English. *Occasional.*

LIT 3192H CAH-ENG 3(3,0)
Honors Caribbean Literature: PR: Permission of Honors and ENC 1102H or equivalent credit. How Caribbean societies have achieved self-expression through documentary writing, prose fiction, and popular culture; taught in English. Honors content. *Occasional.*

LIT 3202 CAH-ENG 3(3,0)
Death and Dying: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Considering the topic of death and dying through a study of literature, the course includes facts, psychological impact, ideological responses to death and identity. *Occasional.*

LIT 3202H CAH-ENG 3(3,0)
Honors Death and Dying: PR: ENC 1102H or equivalent credit, and consent of Honors. Explores the subject of death and grief in a variety of literary genres (fiction, memoir, non-fiction). With Honors content. *Occasional.*

LIT 3206 CAH-ENG 3(3,0)
Place and Space in Literature: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Analysis of how authors develop place and space and how this creates meaning in texts. *Occasional.*

LIT 3206H CAH-ENG 3(3,0)
Honors Place and Space in Literature: PR: Consent of Honors. Analysis of how authors develop place and space and how this creates meaning in texts. With Honors content. *Occasional.*

LIT 3212 CAH-ENG 3(3,0)
Research & Writing About Literature: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Research, writing, and critical analysis skills applicable to upper-level literature courses. *Occasional.*

UCF Courses and Descriptions

LIT 3313 CAH-ENG 3(3,0)
Science Fiction: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. An investigation of science fiction as a literary form, together with selected readings. *Occasional.*

LIT 3313H CAH-ENG 3(3,0)
Honors Science Fiction Literature: PR: Permission of Honors and ENC 1102H or equivalent credit. An investigation of science fiction as a literary form, together with selected readings. Honors content. *Occasional.*

LIT 3368 CAH-ENG 3(3,0)
Magical Realism in Literature: PR: Grade of "C" (2.0) or better in ENC 1102, or C.I. Magical realism in literature, including consideration of its popularity, development, and treatment in various cultural contexts. *Occasional.*

LIT 3381 CAH-ENG 3(3,0)
Women Writers of Color: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Examines the cultural productions of women writers of color in the Americas with a particular focus on literature, theory, and film. *Occasional.*

LIT 3383 CAH-ENG 3(3,0)
Women in Literature: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Fiction, poetry, drama and non-fiction by selected women writers, such as Emily Dickinson, Jane Austen, George Eliot, Kate Chopin, Zora Neale Hurston, Toni Morrison, Adrienne Rich, Gwendolyn Brooks. *Occasional.*

LIT 3383H CAH-ENG 3(3,0)
Honors Women in Literature: PR: Permission of Honors and ENC 1102H or equivalent credit. Fiction, poetry, drama and non-fiction by selected women writers, such as Emily Dickinson, Jane Austen, George Eliot, Kate Chopin, Zora Neale Hurston, Toni Morrison, Adrienne Rich, Gwendolyn Brooks. Honors content. *Occasional.*

LIT 3394 CAH-ENG 3(3,0)
Literature of AIDS: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. To familiarize students with the new genre of literature that has arisen related to AIDS. Essays, short stories, plays, poetry, diaries, and novels will be covered. *Occasional.*

LIT 3394H CAH-ENG 3(3,0)
Honors Literature of AIDS: PR: Permission of Honors and ENC 1102H or equivalent credit. Literature related to AIDS: Essays, short stories, plays, poetry, diaries, and novels. Honors content. *Occasional.*

LIT 3437 CAH-ENG 3(3,0)
International Environmental Justice Literature: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Literary and creative works from different genres and international authors addressing issues and stories related to environmental justice themes, such as toxics and land use. *Occasional.*

LIT 3482 CAH-ENG 3(3,0)
Literature & Popular Culture: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Analysis of media to determine popular values in the formation of popular cultural perceptions. *Occasional.*

LIT 3482H CAH-ENG 3(3,0)
Honors Literature & Popular Culture: PR: Consent of Honors. Analysis of media to determine popular values in the formation of popular cultural perceptions. With Honors Content. *Occasional.*

LIT 3605 CAH-ENG 3(3,0)
Literature and War: PR: Grade of "C" (2.0) or better in ENC 1102, or C.I. Varied representations of war in literature. *Occasional.*

LIT 3607 CAH-ENG 3(3,0)
Mad, Bad, and Dangerous: Roles and Images of Writers in Society: PR: English major or minor, and grade of "C" (2.0) or better required in CRW 3013 and CRW 3053, or C.I. Representations of writers in films and texts, including multi-cultural and gendered aspects, and how these ideals, stereotypes, and cultural roles affect student writers. *Occasional.*

LIT 3714 CAH-ENG 3(3,0)
Literary Modernism: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Examines a specific period, a literary movement, and a set of aesthetic/formal practices applied to poetry, novels, essays, and manifestos. *Occasional.*

LIT 3823 CAH-ENG 3(3,0)
Hispanic Women Writers: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Hispanic women writers in a variety of genres. *Occasional.*

LIT 3833 CAH-ENG 3(3,0)
Modern Asian Literature: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Asian literatures in different genres translated into English or written in English from the modern period. Various countries emphasized in different iterations. *Occasional.*

LIT 3834 CAH-ENG 3(3,0)
Chinese Poetry in Translation: PR: Grade of "C" (2.0) or better in ENC 1102, or C.I. Chinese poetry in English translation, either as a survey or with focus on particular periods, movements, or styles. *Occasional.*

LIT 3835 CAH-ENG 3(3,0)
Translated Modern Chinese Novels: PR: Grade of "C" (2.0) or better in ENC 1102, or C.I. Chinese novels in English translation from the modern and contemporary periods. *Occasional.*

LIT 3905 CAH-ENG 3(3,0)
Directed experience in Literature: PR: ENC 1102, C.I. Individualized topics of study and/or research in literature with personalized faculty direction. May be repeated for credit. *Occasional.*

LIT 3931 CAH-ENG 3(3,0)
Topics in World Literature: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Themes, modes, and genres from literature outside of the U.S. May be repeated for credit only if content is different. *Occasional.*

LIT 3932 CAH-ENG 3(3,0)
Topics in Popular Fiction: PR: Grade of "C" (2.0) or better required in ENC 1102 or C.I. Examines genres in popular fiction such as the western, romance, detective, fantasy, horror, or mystery. May be repeated for credit only if content is different. *Occasional.*

LIT 3933 CAH-ENG 3(3,0)
Literature and Law: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Reading, analysis, and discussion of law, crime, and punishment in literature from historical or contemporary perspectives. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

LIT 3933H CAH-ENG 3(3,0)
Honors Literature and Law: PR: Consent of Honors. Reading, analysis, and discussion of law, crime, and punishment in literature from historical or contemporary perspectives. With Honors Content. *Occasional.*

LIT 4043 CAH-ENG 3(3,0)
Modern Drama As Literature: PR: Grade of C (2.0) or better required in ENG 3014. A study of important plays, playwrights, themes, movements, and styles in modern American, British, and European drama. *Occasional.*

LIT 4184 CAH-ENG 3(3,0)
Irish Literature: PR: Grade of C (2.0) or better required in ENG 3014. Study of literature written in Ireland, within the context of Irish history, politics, culture and colonial experience. *Occasional.*

LIT 4233 CAH-ENG 3(3,0)
Postcolonial Theory and Literature: PR: Grade of C (2.0) or better required in ENG 3014. Focus on the nature of colonial discourse, the strength of postcolonial rewritings, and the relationship of postcolonial theory to other theories. *Occasional.*

LIT 4244 CAH-ENG 3(3,0)
World Authors: PR: Grade of "C" (2.0) or better required in ENG 3014 or C.I. Study of the works of a single non-British and non-U.S. author who composes in English. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

LIT 4303 CAH-ENG 3(3,0)
Post-World War II Fiction: PR: Grade of C (2.0) or better required in ENG 3014. An investigation of various modes of reality in the works of significant postmodernist world authors, crossing cultural boundaries. *Occasional.*

LIT 4374 CAH-ENG 3(3,0)
Literature of the Bible: PR: Grade of C (2.0) or better required in ENG 3014. Literary forms in the Bible — narrative, poetic, and dramatic — and their reflection in modern literature. *Occasional.*

LIT 4374H CAH-ENG 3(3,0)
Honors Literature of the Bible: PR: Permission of Honors and ENC 1102H or equivalent credit. Literary forms in the Bible — narrative, poetic, and dramatic — and their reflection in modern literature. Honors content. *Occasional.*

LIT 4433 CAH-ENG 3(3,0)
Literature of Science and Technology: PR: Grade of "C" (2.0) or better in ENC 1102 or C.I. Major works of non-fiction that address and describe the history, philosophy, politics, and new ideas in science and technology. *Fall.*

LIT 4554 CAH-ENG 3(3,0)
Advanced Feminist Theories: PR: Grade of C (2.0) or better required in ENC 1102, WST 3015 or ENG 3014. An advanced exploration of feminist critical theories and practices. *Occasional.*

MAA 4226 COS-MATH 4(4,0)
Advanced Calculus I: PR: MHF 3302, MAC 2313 and MAS 3106, or C.I. Limits, sequences, and continuity, differentiation and integration. Derivations of integrals. Infinite series and convergence. The Balzano-Weierstrass Theorem and the Heine-Borel Theorem. Extensions in Euclidean n-space. *Fall.*

MAA 4227 COS-MATH 3(3,0)
Advanced Calculus II: PR: MAA 4226 or C.I. Continuation of MAA 4226. *Spring.*

MAA 4402 COS-MATH 3(3,0)
Introduction to Complex Variables: PR: MAC 2313 and MAP 2302 and MHF 3302, or C.I. Analytic functions and complex integration. Residue integration, Taylor and Laurent series, conformal mapping and the application of complex analysis to Potential Theory. *Spring.*

MAA 4934 COS-MATH 3(3,0)
Topics in Analysis: PR: MAS 3106 and MAA 4226, or C.I. Advanced topics in analysis. Selection of topics will vary. May be used in the degree program a maximum of 3 times. *Occasional.*

MAA 5210 COS-MATH 3(3,0)
Topics in Advanced Calculus: PR: MAS 3105, MAP 2302, or equivalent or C.I. Real numbers, epsilon-delta language, limits, continuity, integration, differentiation, Taylor's theorem, series, uniform convergence, inverse and implicit function theorems. *Fall.*

MAA 5228 COS-MATH 3(3,0)
Analysis I: PR: MAS 3106 or C.I. Real numbers, limits, differentiation, Riemann integrals, Riemann-Stieltjes integrals, calculus in R^n ; metric and normed spaces, contraction mapping theorem, inverse and implicit functions. *Fall.*

MAC 1105C COS-MATH 3(1,3)
College Algebra: PR: Appropriate score on the UCF Math Placement exam, or MAT 1033C with a "C" (2.0) or better, or C.I. Inequalities. High degree polynomials. Graphs, rational, logarithmic, and exponential functions. Systems of equations. The "NC" grading policy applies to this course. *Fall/Spring.*

MAC 1105H COS-MATH 3(3,0)
Honors College Algebra: PR: Appropriate score on the UCF Math Placement Exam, or Intermediate algebra or 2 years of high school algebra, and permission of Honors. Analysis of functions (including polynomial, rational, exponential, logarithmic), analysis of conic sections, analysis of systems of linear equations, sequences and series, mathematical induction, and the binomial theorem. The "NC" grading policy applies to this course. *Occasional.*

MAC 1114C COS-MATH 3(1,3)
College Trigonometry: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1105C with a "C" (2.0) or higher, or C.I. The circle arc length, identities, trigonometric functions, inverse functions, applications to simple harmonic motion, function of angles, complete development of triangle solving. Prepares students for upper level mathematics. The "NC" grading policy applies to this course. *Fall, Spring.*

MAC 1140C COS-MATH 3(1,3)
Pre-Calculus Algebra: PR: Appropriate score on the Math Placement Exam, or MAC 1105C with a "C" (2.0) or better, or C.I. Properties and graphs of polynomials, rational, exponential and logarithmic functions, matrices, sequences and series, conics, induction, binomial theorem. Introduction to limits. Prepares students for upper level mathematics. The "NC" grading policy applies to this course. *Fall, Spring.*

MAC 1140H COS-MATH 3(3,0)
Honors Pre-Calculus Algebra: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1105C with a C (2.0) or better, and permission of Honors. Polynomial, rational, exponential, logarithmic, and piecewise defined functions; matrices, conic sections, sequences and series, binomial theorem, mathematical induction, and applications with additional honors content. The "NC" grading policy applies to this course. *Occasional.*

MAC 2147 COS-MATH 5(5,0)
Mathematics for Calculus: PR: Solid background in algebra or trigonometry, or C.I. For students with good mathematical backgrounds who do not want to go directly into calculus. Topics include matrices, determinants, permutations, combinations, sequences, series, induction, trigonometric functions. The "NC" grading policy applies to this course. *Even Fall, Spring.*

MAC 2233 COS-MATH 3(3,0)
Concepts of Calculus: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1140C with a C (2.0) or better, or C.I. The differential and integral calculus of rational, exponential and logarithmic functions, with applications to business analysis. Not open to students with credit in MAC 2253 or MAC 2311C. The "NC" grading policy applies to this course. *Occasional.*

MAC 2253 COS-MATH 3(3,0)
Applied Calculus: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1140C with a C (2.0) or better and MAC 1114C with a C (2.0) or better, or C.I. Differential and integral calculus. Applications to engineering technology. Not open to students with credit in MAC 2233 or MAC 2311C. The "NC" grading policy applies to this course. *Fall, Spring.*

MAC 2311C COS-MATH 4(3,2)
Calculus with Analytic Geometry I: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1140C with a "C" (2.0) or better and MAC 1114C with a grade of "C" (2.0) or better, or combination of appropriate score on the UCF Math Placement Exam and "C" (2.0) or better in MAC 1114 or MAC 1140C, or MAC 2147 or score of 3 or better on the Calculus AB Advanced Placement Exam, or C.I. Analytic geometry; limits, continuity, differentiation of algebraic and trigonometric functions; applications of derivatives; integration and the fundamental theorem of calculus; applications of definite integrals. Not open to students with credit in MAC 2241, The "NC" grading policy applies to this course. *Fall, Spring.*

MAC 2311H COS-MATH 4(4,0)
Honors Calculus with Analytic Geometry I: PR: Appropriate score on the UCF Math Placement Exam, or MAC 1140C with a C (2.0) or better and MAC 1114C with a grade of C (2.0) or better, or score of 3 or better on the Calculus AB Advanced Placement Exam, and consent of Honors. Analytic geometry; limits, continuity, differentiation of algebraic and trigonometric functions; applications of derivatives; integration and the fundamental theorem of calculus; applications of definite integrals. The "NC" grading policy applies to this course. With Honors content. *Fall, Spring.*

MAC 2312 COS-MATH 4(4,0)
Calculus with Analytic Geometry II: PR: Grade of "C" (2.0) or better in MAC 2311C, or score of 5 on the Calculus AB Advanced Placement Exam, or an AB sub-score of 5 or better on the Calculus BC Advanced Placement Exam. Differentiation and integration of exponential, logarithmic, inverse trigonometric functions; techniques of integration; further applications of integration; parametric equations, polar coordinates; infinite sequences and series. *Fall, Spring.*

MAC 2312H COS-MATH 4(4,0)
Honors Calculus with Analytic Geometry II: PR: Grade of "C" (2.0) or better in MAC 2311C, or score of 5 on the Calculus AB Advanced Placement Exam, and permission of Honors. Differentiation and integration of exponential, logarithmic, inverse trigonometric functions; techniques of integration; further applications of integration; parametric equations, polar coordinates; infinite sequences and series. With Honors content. *Fall, Spring.*

MAC 2313 COS-MATH 4(4,0)
Calculus with Analytic Geometry III: PR: Grade of "C" (2.0) or better in MAC 2312, or score of 5 on the Calculus BC Advanced Placement Exam, or C.I. Geometry of higher dimensional Euclidean space; vectors and vector functions; partial derivatives; multiple integrals; line integrals; vector fields; Green's Theorem and Stoke's Theorem. *Fall, Spring.*

MAC 2313H COS-MATH 4(4,0)
Honors Calculus with Analytic Geometry III: PR: Grade of "C" (2.0) or better in MAC 2312, or score of 5 on the Calculus BC Advanced Placement Exam, and permission of Honors. Geometry of higher dimensional Euclidean space; vectors and vector functions; partial derivatives; multiple integrals; line integrals; vector fields; Green's Theorem and Stoke's Theorem. With Honors content. *Spring.*

MAD 2104 COS-MATH 3(3,0)
Foundations of Discrete Math: PR: 2 years of high school algebra and 1 year of geometry or C.I. Basic mathematical logic, methods of proof in mathematics, and application to elementary discrete structure. *Fall, Spring.*

MAD 4203 COS-MATH 3(3,0)
Introduction to Combinatorics: PR: MAC 2312, and either MHF 3302 or COT 3100C, or C.I. Counting principles; permutations and combinations, multisets; recurrence relations and generating functions; combinatorial designs; the Polya theory of counting. *Fall.*

MAD 4301 COS-MATH 3(3,0)
Introduction to Graph Theory: PR: Either MHF 3302 or COT 3100C, or C.I. Graph theory; isomorphism, connectivity, traversability, matchings, factorizations; planarity, colorings, and Ramsey number. *Spring.*

MAD 4934 COS-MATH 3(3,0)
Topics in Discrete Mathematics: PR: MAS 3106 and either MAD 4203 or MAD 4301, or C.I. Advanced topics in discrete mathematics. Selection of topics will vary. May be used in the degree program a maximum of 3 times. *Occasional.*

MAD 5205 COS-MATH 3(3,0)
Graph Theory I: PR: MAD 4203, graduate standing or C.I. Connectivity, Hamilton cycles, spanning trees, network flows, matchings, vertex and edge colorings planar graphs, extremal problems, Ramsey theory, spectral graph theory. *Odd Spring.*

MAE 2801 ED-TL&L 4(3,1)
Elementary School Mathematics: PR: MAC 1105C or MGF 1106. Mathematics appropriate for the elementary school including the six basic sets of numbers, concepts, learning sequences, algorithms, problem-solving techniques, error patterns, number systems, and geometry. *Fall, Spring.*

MAE 3310 ED-TL&L 3(3,0)
Elementary Mathematics for Teaching I: PR: Junior standing or C.I. This course will address pedagogical content knowledge for teaching whole number concepts and operations, integer concepts, geometry and algebraic reasoning. *Fall, Spring.*

MAE 3311 ED-TL&L 3(3,0)
Elementary Mathematics for Teaching II: PR: MAE 3310 with a "C" (2.0) or better. This course will address pedagogical content knowledge for teaching rational number concepts and operations, measurement, and algebraic reasoning. *Fall, Spring.*

MAE 3366 ED-TL&L 3(3,0)
Middle and High School Mathematics for Teaching: PR: Admission to Mathematics Education major or minor. This course provides a foundation in the pedagogical content knowledge for teaching mathematics appropriate for the middle and high school settings with an emphasis on algebra and geometry. *Spring.*

MAE 4300 ED-TL&L 3(3,0)
Math Curriculum and Assessment in Early Childhood: PR: EEC 4661, EEC 4207; CR: EEC 3940. Methodologies for teaching and assessing young children in mathematics concepts and skills through an integrated, developmentally appropriate program. *Fall.*

MAE 4326 ED-TL&L 3(3,0)
How Children Learn Mathematics: PR: MAE 3310 and MAE 3311. CR: EDE 3942. Instructional strategies, learning activities, the use of manipulatives, lesson planning, evaluation of mathematical learning, and diagnostic techniques. *Fall, Spring.* M&S fee \$10.00

MAE 4360 ED-TL&L 4(3,2)
Mathematics Instructional Analysis: PR: EDG 4410 and MAE 4634. CR: MAE 3940. Study of course objectives for the middle grades and high school curriculum and survey of methods and materials which have special application for teaching mathematics. *Fall.*

MAE 4634 ED-TL&L 3(2,1)
Programs in Teaching of Mathematics: PR: Admission to Mathematics Education Major or Minor. CR: MAE 3366. A consideration of special programs, strategies, and materials. Emphasis on individual needs of students. *Spring.*

MAE 5327 ED-TL&L 3(3,0)
Teaching Middle School Mathematics: PR: EDG 6415 and TSL 5085 or admission to Initial Teacher Professional Preparation certificate. Students will develop skills in planning and delivering mathematics instruction in grades 5-9. The use of technology, cooperative learning, ESOL, and manipulatives is considered. *Occasional.*

MAE 5336 ED-TL&L 3(3,0)
Current Methods in Secondary School Mathematics: PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Required special methods course for mathematics 6-12 certification. Assessment, curriculum, technology, practical classroom ideas and activities. *Occasional.*

MAE 5935 COS-MATH 3(3,0)
Post-Secondary Mathematics: PR: Graduate standing or senior standing or C.I. The course will focus on issues which are faced by teachers of collegiate mathematics. Topics will be selected from teaching issues, program issues, and other issues. *Even Fall.*

MAN 3025 BA-MAN 3(3,0)
Management of Organizations: PR: ACG 2021 and ECO 2013 or ECO 2023 each with a grade of "C" (2.0) or better, or for non-business majors, ECO 2013 or ECO 2023 with a grade of "C" (2.0) or better. Introduction to the theory and practice of managing formal organizations, including planning, organization theory, human behavior and control. *Fall, Spring.*

MAN 3025H BA-MAN 3(3,0)
Honors Management of Organizations: PR: ACG 2021 and ECO 2013 or ECO 2023 each with a grade of "C" (2.0) or better, and consent of Honors. Introduction to the theory and practice of managing formal organizations, including planning, organization theory, human behavior, and control. Applicable to honors students. *Spring.*

MAN 3301 BA-MAN 3(3,0)
Strategic Human Resource Management: PR: Admission to the Management major. Provides students with a complete, comprehensive review of the strategic importance of the essential human resource management concepts and techniques for any student majoring in Management. *Fall, Spring.*

UCF Courses and Descriptions

MAN 3302 BA-MAN 3(3,0)
Essentials of Human Resource Management for Integrated Business: PR: Admission to the Integrated Business major. Prepares managers to contribute to the development and implementation of HR policies and practices. Legal issues and relationships with other business functions are emphasized. *Fall, Spring.*

MAN 3354 BA-MAN 3(3,0)
Employee Training for Non-Business Majors: PR: MAN 3025. Employee training needs and practices as performed by supervisors and managers under the direction of organizational specialists. Designed for non-business majors. *Occasional.*

MAN 3520 BA-MAN 3(3,0)
Quality & Productivity Management: PR: GEB 3031, MAN 3025. Management Majors and Minors and students whose major requires it. Principles and theories of quality and operations management in manufacturing and service organizations. *Occasional.*

MAN 4029 BA-MAN 3(3,0)
Service Organization Management: PR: Management major, MAN 3025 and MAN 3520. Study of the special characteristics, problems, and methods for managing service-oriented organizations. *Occasional.*

MAN 4046 BA-MAN 3(3,0)
Teamwork, Collaboration, and Group Dynamics: PR: Admission to the Management major. Examination of concepts related to teams and group dynamics, and development of an understanding of how to become an effective team member, leader, and designer. *Fall, Spring.*

MAN 4101 BA-MAN 3(3,0)
Human Relations in Management: PR: Management major, MAN 3025. The study of individual, interpersonal, group, and intergroup problems in business organizations through the use of cases and experimental exercises. *Fall, Spring.*

MAN 4143 BA-MAN 3(3,0)
Leadership Development: PR: Admission to the Management major. Provides a foundation on the leadership development process and the impact leaders can have on individuals, groups, and organizations. *Fall, Spring.*

MAN 4209 BA-MAN 3(3,0)
Designing Dynamic Organizations: PR: Admission to the Management major. Explores how innovative organization design represents an important source of competitive advantage for organizations of all types. *Fall, Spring.*

MAN 4240 BA-MAN 3(3,0)
Organizations: Theory and Behavior: PR: Management major, MAN 3025. A course providing a micro/macro approach to the study of organizations by integrating organizational theory and organizational behavioral science concepts. *Fall, Spring.*

MAN 4320 BA-MAN 3(3,0)
Human Resources Recruitment and Selection: PR: Management major, MAN 3301. A concentrated investigation of the methods appropriate to the development, implementation and administration of the staffing process in contemporary organizations *Fall, Spring.*

MAN 4329 BA-MAN 3(3,0)
Business Analytics in Human Resource Management: PR: Admission to the Management major. Processes, methodologies, infrastructure, and current practices used to transform data from many sources into useful information for human resource management and decisions. *Fall, Spring.*

MAN 4330 BA-MAN 3(3,0)
Compensation Administration: PR: Management major, MAN 3301. Presentation of compensation theory and current pay related issues and their application to the design and administration of pay systems in large and small organizations *Fall, Odd Spring.*

MAN 4350 BA-MAN 3(3,0)
Performance Management: PR: Admission to the Management major. The management of worker performance through the training and development activities delivered by organizational specialists. Theory, issues, practices and problems are discussed. *Fall, Spring.*

MAN 4441 BA-MAN 3(3,0)
Conflict Resolution and Negotiation: PR: MAN 3025. Conflict resolution and negotiation theories and processes applied to human resource management practices and other management activities in work organizations. *Occasional.*

MAN 4532 BA-MAN 3(3,0)
Introduction to Collaborative Design: PR: Senior standing and C.I. Business students will team with engineering students to obtain hands on experience at solving real world design problems in a team based environment. *Fall, Spring.*

MAN 4583 BA-MAN 3(3,0)
Project Management: PR: Admission to the Integrated Business major. Foundations of project management in assorted organizations and industries. Covers the project environment, the project manager's role, and project phases from initiation to closing. *Fall, Spring.*

MAN 4600 BA-MAN 3(3,0)
International Management: PR: Approved major or minor, MAN 3025. The course examines issues involved in multinational management of business firms, with special emphasis on comparative management. *Fall, Spring.*

MAN 4701 BA-MAN 3(3,0)
Business Ethics and Society: PR: Management major, MAN 3025. This course applies the ethics dimension to business decisions in today's complex political, social, economic and technological environment. *Fall, Spring.*

MAN 4720 BA-MAN 3(3,0)
Strategic Management: PR: Admitted to Business major, senior standing, and completion of MAN 3025, MAR 3023, FIN 3403, ECO 3411, and ACG 3173 or ACG 3131. Students assume a strategic view of organizations and integrate and apply material learned in their business courses to modern organizational problems and opportunities. *Fall, Spring.*

MAN 4941 BA-MAN 3(0,3)
Management Internship: PR: Management major, application approval, consent of department chair. Provides student with supervised, management-related work experience in a sponsoring organization. See department for information; application required. May be repeated for credit. *Occasional.*

MAN 5037 BA-MAN 1.5(1.5,0)
Management Foundations: PR: Graduate standing or C.I. Theory and practice of managing organizations to include planning, organizational theory, human behavior, and control. *Fall, Spring.*

MAN 5050 BA-MAN 2(2,0)
Management Concepts: PR: Acceptance in MBA program. Theory and practice of managing organizations to include planning, organizational theory, human behavior, and control. *Occasional.*

MAN 5867 BA-MAN 3(3,0)
Small Business Consulting: PR: C.I. Hands-on small business consulting course. Students are assigned teams and work with a local small business. *Occasional.*

MAP 2302 COS-MATH 3(3,0)
Ordinary Differential Equations I: PR: Grade of "C" (2.0) or better in MAC 2313, or C.I. Methods of solution for first order equations. Linear equations. Laplace transforms. Series solutions. Selected applications. *Fall, Spring.*

MAP 2302H COS-MATH 3(3,0)
Honors Differential Equations: PR: Grade of "C" (2.0) or better in MAC 2313, and permission of Honors. Methods of solution for first order equations. Linear equations. Numerical methods; Laplace transforms. Series solutions. Selected applications. Students will complete projects. For Honors students from all disciplines. *Occasional.*

MAP 3482H COS-MATH 3(3,0)
Honors Systems Modeling and Simulation: PR: Permission of Honors and MAC 2312. Population growth dynamics; spread of an epidemic; ecological predator-prey relationships; insulin and its use in the control of diabetes; economic systems. *Occasional.*

MAP 3923 COS-MATH 1(1,0)
Frontiers in Mathematical Research: Colloquia and Public Talks: PR: MAP 2302 or C.I. Current research in mathematics and related fields, as presented by leading national and international researchers. May not be used to satisfy requirements for mathematics major or minor. Graded S/U. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MAP 4103 COS-MATH 3(3,0)
Mathematical Modeling I: PR: MAS 3105 or MAS 3106, and MAP 2302, or C.I. An introduction to the study of mathematical modeling. *Spring.*

MAP 4113 COS-MATH 3(3,0)
Probability, Random Processes and Applications: PR: MAC 2313. Elementary probability theory; modes of convergence; martingales, Gaussian, Wiener, and diffusion processes; Brownian motion; applications. *Fall.*

MAP 4153 COS-MATH 3(3,0)
Vector and Tensor Analysis: PR: MAS 3105 or MAS 3106, and MAP 2302, or C.I. Vector calculus. The theorems of Green, Gauss and Stokes. Introduction to tensors. Application in engineering and physical sciences. *Fall.*

MAP 4171 COS-MATH 3(3,0)
Optimization: PR: MAC 2313, and MAP 2302, and MAS 3105 or MAS 3106, or C.I. Linear programming, dynamic programming, control theory, integer programming. *Occasional.*

MAP 4303 COS-MATH 3(3,0)
Ordinary Differential Equations II: PR: MAP 2302, and MAS 3105 or MAS 3106, or C.I. Systems of linear differential equations, introduction to numerical solutions, stability theory and phase plane analysis, an introduction to limit cycles, bifurcations and chaos, power series solutions of differential equations. *Occasional.*

MAP 4341 COS-MATH 3(3,0)
Introduction to Partial Differential Equations: PR: MAP 2302, and MAS 3105 or MAS 3106, or C.I. Introduction to second-order linear partial differential equations - heat, wave and Laplace equations, separation of variables in PDEs, Sturm-Liouville eigenvalue problems, Fourier series analysis and Green's functions, Laplace and Fourier transform methods. *Occasional.*

MAP 4342 COS-MATH 3(3,0)
Partial Differential Equations II: PR: MAS 3105 or MAS 3106, and MAP 4341. Green's Functions, Integral Transforms, Laplace and Fourier transforms applied to heat, wave and potential equations. Bessel functions, Legendre functions, Fourier-Bessel series, PDEs in higher dimensions. *Spring.*

MAP 4371 COS-MATH 3(3,0)
Numerical Methods for Differential Equations: PR: MAC 2313, and MAP 2302, and COP 3223C, and MAS 3105 or MAS 3106, or C.I. Numerical theory and practices used in solving ordinary differential equations and PDE. Covers Euler's method, trapezoidal rule, multi-step methods, Runge-Kutta, error control, finite differences, implicit and explicit schemes, iterative methods, and stability. *Fall.*

MAP 4384 COS-MATH 3(3,0)
Numerical Methods for Computational Sciences: PR: MAP 2302, and COP 3223C, and MAS 3105 or MAS 3106. Theory of modern methods of numerical computation and numerical analysis in linear algebra and differential equations; non-linear optimization, finite element methods, adaptive quadrature. *Occasional.*

MAP 4484 COS-MATH 3(3,0)
Mathematical Biology I: PR: MAP 2302, and MAS 3105 or MAS 3106, or C.I. Mathematical models of single populations, predator-prey systems, competition between species, host-parasite systems, epidemics, genetics, excitable systems. *Occasional.*

MAP 4494 COS-MATH 3(3,0)
Mathematical Biology II: PR: MAP 4484. Mathematics of permanence, persistence and stability of ecological communities; competition in special habitats; epidemics; immune system; optimal foraging; cancer modeling; physiological modeling; genetics; protein folding. *Occasional.*

MAP 4640 COS-MATH 3(3,0)
Financial Mathematics: PR: MAP 4113 or C.I. Binomial no-arbitrage pricing model, Martingales, Markov processes, capital asset pricing model, stopping times, American derivative securities, random walks, interest rates, fixed-income derivatives, futures. *Occasional.*

MAP 4934 COS-MATH 3(3,0)
Topics in Applied Mathematics: PR: MAP 2302 and MAS 3105, or C.I. Advanced topics in applied mathematics. Selection of topics will vary. May be used in the degree program a maximum of 3 times. *Occasional.*

MAP 5117 COS-MATH 3(3,0)
Mathematical Modeling: PR: STA 4321, MAP 4303, graduate standing or senior standing, or C.I. Introduction to modeling in industrial and scientific applications; techniques for studying statistical and deterministic models. *Even Fall.*

MAP 5336 COS-MATH 3(3,0)
Ordinary Differential Equations and Applications: PR: MAA 5228 or C.I. Existence and uniqueness of solutions of differential equations, systems of ordinary differential equations, autonomous systems, phase plane analysis, stability, bifurcations. *Spring.*

MAP 5426 COS-MATH 3(3,0)
Special Functions: PR: MAP 2302, and graduate status or senior standing or C.I. Series and integral representations, generating functions, recurrence relations and orthogonality properties of the special functions. Emphasis on Bessel, Legendre and hypergeometric functions. *Occasional.*

MAP 5435 COS-MATH 3(3,0)
Advanced Mathematics for Engineers: PR: MAP 2302, and graduate status or senior standing or C.I. Linear Algebra and matrix methods, ordinary differential equations, Fourier series, partial differential equations, numerical methods for differential equations, and applications to engineering. *Occasional.*

MAP 5514 COS-MATH 3(3,0)
Linear and Nonlinear Waves I: PR: MAP 2302, and graduate standing or senior standing, or C.I. Equations of motion in inviscid and viscous fluids, energy equation and energy flux, linear theory of gravity and capillary-gravity waves, variational principles for water waves. *Occasional.*

MAP 5931 COS-MATH 1(1,0)
Research Seminar: PR: Graduate status or senior standing or C.I. Four instructors will introduce the students to a research area by presenting necessary background and presenting current investigations. Different branches of mathematics will be presented for a sense of diversity. *Occasional.*

MAR 3023 BA-MAR 3(3,0)
Marketing: PR: ACG 2021 and ECO 2013 or ECO 2023 each with a grade of "C" (2.0) or better, or for non-business majors, ECO 2013 or ECO 2023 with a grade of "C" (2.0) or better. Study of how firms create and communicate value in order to build and maintain customer relationships while benefitting the organization and its stakeholders. *Fall, Spring.*

MAR 3023H BA-MAR 3(3,0)
Honors Marketing: PR: ACG 2021 and ECO 2013 or ECO 2023 each with a grade of "C" (2.0) or better, and consent of Honors. Study of how firms create and communicate value in order to build and maintain customer relationships while benefitting the organization and its stakeholders; course has honors content. *Fall, Spring.*

MAR 3203 BA-MAR 3(3,0)
Supply Chain and Operations Management: PR: Completion of each course in the Business common program prerequisites with a "C" (2.0) or better. Study of the planning and management of all activities involved in processes, assets, and flows of materials and information to meet customers' needs. *Fall, Spring.*

MAR 3203H BA-MAR 3(3,0)
Honors Supply Chain and Operations Management: PR: Completion of each course in the Business common program prerequisites with a "C" (2.0) or better, and consent of the Honors College. Study of the planning and management of all activities involved in processes, assets, and flows of materials and information to meet customers' needs. *Fall.*

MAR 3323 BA-MAR 3(3,0)
Integrated Marketing Communication: PR: Marketing Minor and MAR 3023 with a "B" (3.0) or better. Planning and execution of advertising, sales promotion, and public relations programs consistent with integrated marketing communications programs. *Fall, Spring.*

MAR 3391 BA-MAR 3(3,0)
Professional Selling: PR: Marketing major or Marketing minor, and MAR 3023 with a grade of "B" (3.0) or better. The communication processes that form the basis of professional selling to businesses and to individuals. Focus is on applied exercises and role-play situations. *Fall, Spring.*

MAR 3391H BA-MAR 3(3,0)
Honors Professional Selling: PR: Marketing major or Marketing minor, and MAR 3023 with a grade of "B" (3.0) or better, and consent of the Honors College. The communication processes that form the basis of professional selling to business and to individuals. Focus is on applied exercises and role-play situations. *Occasional.*

MAR 3403 BA-MAR 3(3,0)
Sales Force Management: PR: MAR 3023 with a "B" (3.0) or better and appropriate major or minor. An overview of the sales management process. Emphasis on sales program formulation and implementation. *Occasional.*

MAR 3407 BA-MAR 3(3,0)
Contemporary Selling: PR: Admission to the Integrated Business major. Examines functions, methodologies and basic problems involved in selling. Introduces the sales process for smaller companies in Business-to-Consumer and Business-to-Business markets. *Fall, Spring.*

MAR 3503 BA-MAR 3(3,0)
Consumer Behavior: PR: Admission to the Marketing major. Individuals, groups, or organizations and the processes utilized to select, secure, use, and dispose of products, services, or experiences to satisfy consumer needs and wants. *Fall, Spring.*

MAR 3611 BA-MAR 3(3,0)
Marketing Analysis and Research Methods: PR: Marketing minor or Professional Selling minor, and MAR 3023 with a "B" (3.0) or better. Study of the analytical tools and research methods used by marketers to make more effective decisions. *Fall, Spring.*

MAR 3613 BA-MAR 3(3,0)
Marketing Research: PR: MAR 3615 with a grade of "C" (2.0) or better. The acquisition of information using various marketing research methods, as well as the application of results to marketing decision making. *Fall, Spring.*

MAR 3615 BA-MAR 3(3,0)
Marketing Analysis: PR: Admission to the Marketing major. Study of analytic methods, tools, processes, and technologies that enable marketers to evaluate the success of marketing activities and initiatives. *Fall, Spring.*

MAR 3641 BA-MAR 3(3,0)
Marketing Intelligence: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Contemporary sources and applications of information concerning external forces impacting marketing decision making. *Occasional.*

MAR 3721 BA-MAR 3(3,0)
Digital Media Marketing: PR: Admission to the marketing major. The application of contemporary digital media technologies to marketing decision making. *Fall, Spring.*

MAR 3765 BA-MAR 3(3,0)
Entrepreneurial Marketing: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better, or admission to the Entrepreneurship certificate or the Entrepreneurship minor or the Technological Entrepreneurship minor. Exploration of how marketing and entrepreneurship affect and are affected by one another. *Fall, Spring.*

MAR 4156 BA-MAR 3(3,0)
International Marketing: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Investigates strategy, policy and the variables relevant to international marketing decisions. *Occasional.*

MAR 4231 BA-MAR 3(3,0)
Retailing Management: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. The field of retailing. Emphasis on planning for profitability through demand forecasting, inventory control, customer relationship management and brand leadership. *Occasional.*

MAR 4413C BA-MAR 3(2,3)
Strategic Issues in Sales: PR: MAR 4415C with a grade of "C" (2.0) or better. Advanced study of selected contemporary strategic issues in selling and sales management. *Occasional.*

MAR 4415C BA-MAR 3(2,3)
Advanced Professional Selling: PR: Admission to the professional selling track in the Marketing major or to the Professional Selling minor. Advanced study of the professional selling process, including team selling, negotiating, customer conflict management, and CRM systems. *Occasional.*

MAR 4418 BA-MAR 3(3,0)
Strategic Sales Force Management: PR: Admission to the Marketing major or the Professional Selling minor. Study of the effective strategic management of contemporary sales forces. Emphasis on sales program formulation, implementation, and control, with a focus on strategy. *Fall, Spring.*

MAR 4711 BA-MAR 3(3,0)
Sport Marketing: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Marketing as it applies to the sport and leisure industry. *Occasional.*

MAR 4712 BA-MAR 3(3,0)
Healthcare Marketing: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Marketing as it applies to healthcare manufacturers, intermediaries and providers. *Occasional.*

MAR 4715 BA-MAR 3(3,0)
Entertainment Marketing: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Application of marketing theory and tools to the marketing of products and services in the entertainment industry. *Occasional.*

MAR 4803 BA-MAR 3(3,0)
Marketing Management: PR: Marketing Minor and MAR 3611 with a grade of "C" (2.0) or better. Planning, organizing, implementing, monitoring and controlling marketing programs to effectively compete in dynamic and diverse business environments. *Fall, Spring.*

MAR 4804 BA-MAR 3(3,0)
Marketing Strategy: PR: MAR 3613 with a grade of "C" (2.0) or better. Marketing issues are explored, with emphasis on strategy formulation and integrative marketing decision making. *Fall, Spring.*

MAR 4832 BA-MAR 3(3,0)
Product Management: PR: MAR 3613 with a grade of "C" (2.0) or better. Study of the theory and practice of managing innovation and product design, testing, branding, and introduction of new products. *Fall, Spring.*

MAR 4840 BA-MAR 3(3,0)
Fundamentals of Services Marketing: PR: Admission to the Integrated Business major. Study of marketing decision making in services sectors. Primary focus is on the unique aspects of services that impact marketing decision making in small and medium-size enterprises. *Occasional.*

MAR 4841 BA-MAR 3(3,0)
Services Marketing: PR: Admission to the marketing major. Examination of marketing in services industries, with particular emphasis on unique aspects of services marketing, the service marketing mix, and the implementation of services strategies. *Fall, Spring.*

MAR 4934 BA-MAR 3(3,0)
Contemporary Marketing Topics in Florida: PR: Marketing minor and MAR 3023 with a "B" (3.0) or better. Advanced study of marketing topics relevant to major business sectors in the state of Florida, e.g., high technology, health care, sustainable marketing, housing, real estate, tourism, hospitality, sports, gaming, etc. Topics may vary from term to term. May be repeated for credit only when course content is different. *Occasional.*

UCF Courses and Descriptions

MAR 4941 BA-MAR 3(3,0)
Marketing Internship: PR: Admission to the Marketing major or minor, and application to and approval by the Department of Marketing. Provides student with supervised, market-related work experience in a sponsoring organization. Application and approval required. *Fall, Spring.*

MAS 3105 COS-MATH 4(4,0)
Matrix and Linear Algebra: PR: MAC 2312 or C.I. Matrices, determinants, vector spaces in \mathbb{R}^n , linear independence, basis, solutions of systems, range of linear transformations, eigenvectors, Jordan Canonical Form, matrix functions, quadratic forms. *Fall, Spring.*

MAS 3105H COS-MATH 4(4,0)
Honors Matrix and Linear Algebra: PR: MAC 2312 and permission of Honors or C.I. Matrices, determinants, vector spaces in \mathbb{R}^n , linear independence, basis, solutions of systems, range of linear transformations, eigenvectors, Jordan Canonical Form, matrix functions, quadratic forms; with Honors content. *Fall.*

MAS 3106 COS-MATH 4(4,0)
Linear Algebra: PR: MHF 3302 and MAC 2312, or C.I. Abstract vector spaces, linear transformations, isomorphisms, projections, inner products, the spectral theorem, Jordan Canonical Form. *Fall, Spring.*

MAS 3203 COS-MATH 3(3,0)
Introduction to Number Theory: PR: MHF 3302 or C.I. The course will include the following topics: inductive reasoning, factorization, the division algorithm and congruences. *Spring.*

MAS 4301 COS-MATH 3(3,0)
Abstract Algebra I: PR: MHF 3302 and MAS 3106, or C.I. Sets and mappings, groups, subgroups, permutation groups, homomorphisms and isomorphisms, the isomorphism theorems, groups actions, the class equation, Sylow theorems, and rings. *Fall.*

MAS 4302 COS-MATH 3(3,0)
Abstract Algebra II: PR: MAS 4301 or C.I. Advanced topics in abstract algebra, including ring theory and field theory; introduction to Galois theory. *Spring.*

MAS 4934 COS-MATH 3(3,0)
Topics in Algebra: PR: MAS 3106 and MAS 4301, or C.I. Advanced topics in abstract algebra and discrete mathematics. Selection of topics will vary. May be used in the degree program a maximum of 3 times. *Occasional.*

MAS 5145 COS-MATH 3(3,0)
Advanced Linear Algebra and Matrix Theory: PR: MAS 3106 or C.I. Linear spaces, subspaces, linear transformations, matrices, eigenvalues and eigenvectors, Jordan forms, positive definite matrices, bilinear and quadratic forms, functions of matrices. *Even Fall.*

MAS 5311 COS-MATH 3(3,0)
Algebra I: PR: MAS 4301 or graduate standing or C.I. Sets and categories, groups and groupoids, group actions, the class equation, Sylow theorems, Jordan-Holder Theorem, Rings, Modules, Complexes, Factorization, and Irreducibility. *Occasional.*

MAT 1033C COS-MATH 3(1,3)
Intermediate Algebra: Reinforcement and development of algebra skills. Operations with polynomial, rational expressions; radicals; rational exponents; linear and quadratic equations, linear inequalities, and applications. This course is a "bridge course" which may be applied towards a degree as elective credit. This course will not satisfy either the GEP or Gordon Rule. *Occasional.*

MAT 3937 COS-MATH 1(1,0)
Techniques of Problem Solving: PR: MAC 2311C and CR: MAC 2312; or C.I. Methods for solving problems in a wide variety of mathematical fields, with an emphasis on proper mathematical technique and writing of solutions. Graded S/U. May be repeated for credit. *Fall.*

MAT 5712 COS-MATH 3(3,0)
Scientific Computing: PR: MAC 2313, MAP 2302, and either MAS 3105 or MAS 3106, or C.I. Matlab fundamentals, computer arithmetic, nonlinear equations, polynomial interpolation, divided; differences, splines, curve fitting, least-squares method, numerical differentiation and integration. *Even Fall.*

MCB 1000 COM-BSBS 3(3,0)
The Invisible World: Introduction to microbes, their beneficial and detrimental activities, and their importance to our every day lives. *Fall.*

MCB 1310 COM-BSBS 3(3,0)
Introduction to Biotechnology and Genetic Engineering: Introduction to theories, laws, principles, foundations, scientific methods of genetic engineering & biotechnology and their applications in agriculture, environment and human health. *Fall, Spring.*

MCB 2004C COM-BSBS 4(3,2)
Microbiology for Health Professionals: PR: BSC 2010C, CHM 1032 or CHM 2045C. A survey of microbiology for the health professional. *Spring.* M&S fee \$53.00

MCB 3020C COM-BSBS 5(3,4)
General Microbiology: PR: BSC 2010C, CHM 2046, or CR: CHM 2210. Fundamentals of microbiology, evaluating microbial structure and function, metabolism, growth, genetics, virology environmental control, ecology, pathogenicity; and laboratory techniques. *Fall, Spring.* M&S fee \$53.00

MCB 3020C COM-BSBS 5(3,5)
Honors General Microbiology: PR: BSC 2010C, CHM 2046 or CR: CHM 2210, and consent of Honors. Same as MCB 3020C with enrichment and further development of analytical skills in a separate laboratory and discussion section. With Honors content. *Fall.* M&S fee \$53.00

MCB 3202 COM-BSBS 3(3,0)
Principles of Infectious Disease: PR: MCB 3020C. Introduction to host-pathogen interactions and microbial pathogenesis, with topics covering eukaryotic pathogens, virology, prokaryotic structure, pathogen identification, epidemiology, immunity, vaccines and antimicrobials, and virulence mechanisms. *Occasional.*

MCB 3203 COM-BSBS 3(3,0)
Pathogenic Microbiology: PR: MCB 3020C or C.I. Microorganisms producing disease in man and other animals; means of transmission; protection against disease. *Spring.*

MCB 3203L COM-BSBS 1(0,3)
Pathogenic Microbiology Lab: CR: MCB 3203. Laboratory investigation of pathogenic microorganisms, with emphasis on isolation and identification of pathogenic microorganisms. *Spring.* M&S fee \$53.00

MCB 3316H COM-BSBS 3(3,0)
Honors Biotechnology and Genetic Engineering Seminar: PR: Permission of Honors. Principles, applications, laws, ethics and impact on society of biotechnology and genetic engineering in agriculture, medicine, forestry, environment, computer/ industrial/ chemical engineering and business administration. *Occasional.*

MCB 4114C COM-BSBS 4(3,3)
Determinative & Systemic Microbiology: PR: MCB 3020C, MCB 3203. Microbial classification taxonomic rules and nomenclature techniques for identification and interrelating the phyla and taxa of bacteria. *Occasional.*

MCB 4201 COM-BSBS 3(3,0)
Microbial Stress Response: PR: MCB 3020C and PCB 3522. Examination of the molecular genetic mechanisms that bacterial and fungal pathogens use to adapt to changes in their environment. *Fall.*

MCB 4204 COM-BSBS 3(3,0)
Cellular Microbiology: Host-Pathogen Interactions: PR: MCB 3020C, PCB 3522. Examination of the molecular details of host-pathogen interactions. Key areas of cell biology will be considered in relation to microbial pathogenesis. *Spring.*

MCB 4207 COM-BSBS 3(3,0)
Infectious Processes: PR: MCB 3020C. The infectious process and the response of host cells and tissue to infection. *Fall.*

MCB 4224 COM-BSBS 3(3,0)
Molecular Biology of Diseases: PR: PCB 3522 or PCB 3023. In-depth knowledge of current advances in the molecular mechanisms underlying human diseases. Topics include autoimmunity, neurodegeneration, aging, drug addiction, obesity, and cancer. *Spring.*

MCB 4276 COM-BSBS 3(3,0)
Epidemiology of Infectious Diseases: PR: MCB 3020C. Study of descriptive and analytic epidemiology and its application to the analysis of infectious diseases and in the community health status. *Spring.*

MCB 4312 COM-BSBS 3(3,0)
Molecular Biotechnology: PR: MCB 3020C. Principles, techniques, and applications of Molecular Biotechnology in genetically modified food, cloning, gene therapy, and forensics; transgenic animals; patents and regulations. *Fall.*

MCB 4404 COM-BSBS 3(3,0)
Bacterial Genetics and Physiology: PR: PCB 3522. Basic principles of microbial genetic analysis emphasizing how microbial genetic approaches are used to understand fundamental physiological processes in bacteria. *Spring.*

MCB 4410 COM-BSBS 3(3,0)
Cellular Metabolism: PR: PCB 3522 or PCB 3023. Basic concepts of the mechanisms that define the functioning and regulation of prokaryotic and eukaryotic cell metabolism. *Fall.*

MCB 4414 COM-BSBS 3(3,0)
Microbial Metabolism: PR: BSC 3403. Interrelationship between cellular structure function and genetic traits in microorganisms. The interaction between microorganisms and their nutritional environment. *Fall, Spring.*

MCB 4503C COM-BSBS 3(3,0)
Virology: PR: PCB 3522. Concepts of structure and function of viruses, virus-host interactions and viral, and related disease states. *Occasional.*

MCB 4603 COM-BSBS 3(3,0)
Environmental Microbiology: PR: MCB 3020C. Interrelationships between the biological activities of microorganisms and their terrestrial and aquatic environments. *Fall.*

MCB 4653 COM-BSBS 3(1,6)
Applied Industrial Microbiology: PR: MCB 3020C and BSC 3403C. Combination of molecular and biochemical analyses with applied industrial microbiology projects. *Fall.*

MCB 4720 COM-BSBS 3(3,0)
Industrial Perspectives Seminar: PR: Biotechnology major and CR: MCB 3020C. Concepts and techniques of basic research and drug development. Speakers from the biotechnology/pharmaceutical industry will show applications. *Fall.*

MCB 4721C COM-BSBS 4(2,4)
Methods in Biotechnology: PR: BSC 3403C. Fluorescence and luminescence-based assays used in biopharmaceutical industry for target validation. *Occasional.* M&S fee \$70.00

MCB 4920C COM-BSBS 3(1,4)
Group-Effort Applied Research: PR: MCB 3020C and BSC 3403C. Hands-on training class focused on real-world, applied research. Students participate as a group in a research project focusing on highly-parallel technical applications. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

MCB 4920H COM-BSBS 3(1,4)
Honors Group Effort Applied Research (GEAR): PR: BSC 3403C and Consent from Honors. Hands-on training class focused on real-world, applied research. Students participate as a group in a research project focusing on highly-parallel technical applications. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional.*

UCF Courses and Descriptions

MCB 4940 COM-BSBS 0-3(0,3-4)
Methodology in Biomedical Sciences
Instruction: PR: MCB 3203L or PCB 3233L or PCB 3703C or ZOO 3733C or MCB 3020C, and C.I. Reinforces lab techniques; students will also gain experience in teaching by assisting instructors of different biomedical science labs. *Fall, Spring.*

MCB 5205 COM-BSBS 3(3,0)
Infectious Processes: PR: MCB 3020C or C.I. Discussion of current theories of the infectious process and the response of host cells and tissue to infection. *Fall.*

MCB 5208 COM-BSBS 3(3,0)
Cellular Microbiology: Host-Pathogen Interactions: PR: Graduate standing, PCB 3522. Examination of the molecular details of host-pathogen interactions. Key areas of cell biology will be considered in relation to microbial pathogenesis. *Spring.*

MCB 5209 COM-BSBS 3(3,0)
Microbial Stress Response: PR: Graduate standing or C.I. Examination of the molecular genetic mechanisms, bacterial and fungal pathogens used to adapt to changes in their environment. *Fall.*

MCB 5225 COM-BSBS 3(3,0)
Molecular Biology of Disease: PR: Graduate standing or C.I. An in-depth study of the molecular biological mechanism of diseases in experimental animal models and human populations. *Occasional.*

MCB 5314 COM-BSBS 1(1,0)
Industrial Perspectives Seminar: PR: Biotechnology MS students. Learning concepts of basic research and drug development in the pharmaceutical industry and technical presentation. May be used in the degree program a maximum of 2 times. *Fall.*

MCB 5415 COM-BSBS 3(3,0)
Cellular Metabolism: PR: Graduate standing or C.I. Basic concepts of the mechanisms that define the functioning and regulation of prokaryotic and eukaryotic cell metabolism. *Fall.*

MCB 5505 COM-BSBS 3(3,0)
Molecular Virology: PR: Graduate standing or C.I. An in-depth overview of the fundamental aspects and current concerns in modern virology including HIV, tumor viruses Prion disease, virus-host interaction, genome replication and pathogenesis. *Occasional.*

MCB 5654 COM-BSBS 3(3,0)
Applied Microbiology: PR: MCB 3020C or C.I. Microbial biochemistry of industrial processes including: economics, screening, scale up, quality control and applied genetics. *Occasional.*

MCB 5722C COM-BSBS 4(2,4)
Methods in Biotechnology: PR: Graduate standing. A laboratory course that will train graduate students in fluorescence and luminescence-based assays used in biopharmaceutical industry for target validation. *Occasional.* M&S fee \$70.00

MCB 5932 COM-BSBS VAR(VAR,VAR)
Current Topics in Molecular Biology: PR: Graduate standing or C.I. Selected current research topics from the primary literature reflecting recent advances in molecular biology. May be repeated for credit. *Occasional.*

MET 2104 COS-PHYS 3(3,0)
The Earth's Climate: History, physics and dynamics of the Earth's climate. *Odd Spring.*

MGF 1106 COS-MATH 3(3,0)
Finite Mathematics: PR: Appropriate score on the UCF Math Placement test, or MAT 1033C with a "C" (2.0) or better, or C.I. Introduction to systematic counting, probability, geometry, statistics, sets and logic. This course is intended for students who are not planning to take upper level courses in mathematics. *Fall.*

MGF 1107 COS-MATH 3(3,0)
Explorations in Mathematics: The beauty and utility of mathematics, including patterns and symmetry, voting strategies, and finance. Connections between math and music, art, architecture, and nature. This course is intended for students not planning to take upper level mathematics. *Fall, Spring.*

MHF 3302 COS-MATH 3(3,0)
Logic and Proof in Mathematics: PR: MAC 2311C. CR: MAC 2312. Basic mathematical logic. Methods of proof in mathematics. Application of proofs to elementary mathematical structures. *Fall, Spring.*

MHF 4404 COS-MATH 3(3,0)
History of Mathematics: PR: MAC 2312 or C.I. A chronological study of the evolution of mathematical thought from primitive counting through modern ideas of the 20th century. Recommended for prospective teachers in mathematics. *Fall.*

MHF 4934 COS-MATH 3(3,0)
Topics in Foundations and History of Mathematics: PR: MHF 3302 and MAS 3106, or C.I. Advanced, specialized topics in the foundations and history of mathematics, ranging from set theory and mathematical logic to the history and development of mathematical theories. May be used in the degree program a maximum of 3 times. *Occasional.*

MHS 2090 ED-CFCS 3(3,0)
Introduction to Human Services: An overview of the field of human services including roles, boundaries and ethical issues. The course orients students to the operation of human service agencies. *Fall, Spring.*

MHS 2330 ED-CFCS 3(3,0)
Career Planning: Introduction to career and life planning theories and concepts that assists students in applying these to their own lives. *Odd Fall, Even Spring.*

MHS 2441 ED-CFCS 3(3,0)
Couples, Families and Intimate Relationships: Dynamics of families, couples, intimate relationships, dating, courtship and challenges of establishing stable and satisfying couples and families, impact of divorce, premarital and couples education. *Fall, Spring.*

MHS 3052 ED-CFCS 3(3,0)
Helping Skills for Human Service Providers: PR: MHS 2090. Focuses on the interpersonal skills necessary to the practice of the human service industry. Emphasis on motivating and supporting clients who are experiencing challenging situations. *Spring.*

MHS 3426 ED-CFCS 3(3,0)
Diversity Issues in Human Services: PR: MHS 2090. An introduction to multicultural aspects of helping including race, ethnicity, religion, gender, socioeconomic status, spirituality, sexual orientation and disability. *Fall, Spring.*

MHS 5005 ED-CFCS 3(3,0)
Introduction to the Counseling Profession: PR: Completion of Phase II of Education Professional Preparation or C.I. Overview of the philosophy, organization, administration, and roles of counselors in various work settings. *Fall, Spring.*

MLS 3220C COM-BSBS 3(3,3)
Techniques in Clinical Microscopy: PR: CHM 2210, PCB 3703C or C.I. Analysis of body fluids and urine by chemical and microscopic methods with interpretation and correlation to human disease. *Fall.* M&S fee \$70.00

MLS 3305 COM-BSBS 3(3,0)
Hematology: PR: CHM 2210 and PCB 3703C. Overview of the hematopoietic system and disease states associated with blood and bone marrow. *Spring.*

MLS 3305L COM-BSBS 1(0,6)
Hematology Lab: PR: MLS 3305. Practical laboratory procedures routinely performed for analyzing hematologic abnormalities. *Spring.*

MLS 3705 COM-BSBS 3(3,0)
Concepts in Education/Management: PR: Admission to professional phase of the MLS Program or C.I. Introduction to laboratory management, health delivery systems, and educational practices in clinical settings. *Spring.*

MLS 4334 COM-BSBS 3(3,0)
Hemostasis: PR: CHM 2210 and PCB 3703C. Overview of hemostatic and fibrinolytic conditions at the time of disease and the relationship of lab tests to diagnosis. *Occasional.*

MLS 4430C COM-BSBS 3(2,3)
Clinical Parasitology: PR: MCB 3020C, CHM 2210, PCB 3703C or C.I. Instruction and laboratory practice in the examination and study of clinical material for the detection and identification of human parasites. *Fall.* M&S fee \$46.00

MLS 4460L COM-BSBS 1(0,6)
Clinical Pathogenic Microbiology Lab: PR: Admission to the professional phase of the MLS program. CR: MCB 3203. Laboratory analysis of human pathogens from clinical samples to include bacteria and fungi. *Spring.* M&S fee \$53.00

MLS 4505C COM-BSBS 3(2,3)
Immunodiagnosics: PR: PCB 3233 and PCB 3233L. Theory and application of immunologic principles and their use in diagnosis of human disease. *Spring.* M&S fee \$70.00

MLS 4550 COM-BSBS 4(2,6)
Clinical Immunohematology: PR: Admission to the professional phase of the MLS program or C.I. Investigation of incompatible crossmatches; antibody identification, leukocyte antigens and identification procedures, problem solving. *Spring.* M&S fee \$70.00

MLS 4625 COM-BSBS 3(3,0)
Advanced Clinical Chemistry I: PR: CHM 2210, PCB 3703C or C.I. Correlation of lab test to specific disease states including deviations in carbohydrate, amino acid metabolism, renal function, gastric function, electrolytes, and blood gases. *Fall.*

MLS 4625L COM-BSBS 1(0,3)
Advanced Clinical Chem I Lab: CR: MLS 4625. Laboratory procedures routinely performed in a clinical chemistry laboratory. *Fall.* M&S fee \$70.00

MLS 4630 COM-BSBS 3(3,0)
Advanced Clinical Chemistry II: PR: CHM 2210, PCB 3703C or C.I. Correlation of laboratory tests to specific human disease states. *Spring.*

MLS 4830L COM-BSBS 4(0,8)
Interpretive & Practical Clinical Chemistry: PR: Admission to the MLS program, MLS 4625, MLS 4630. Instruction and practice of clinical chemistry laboratory procedures at an off-campus affiliated hospital/clinical site. *Fall.*

MLS 4831L COM-BSBS 4(0,8)
Interpretive & Practical Immunohematology: PR: Admission to the MLS program, MLS 4550, MLS 4505C. Instruction and practice of blood banking and transfusion medicine laboratory procedures at an off-campus affiliated hospital/clinical site. *Fall.*

MLS 4832L COM-BSBS 4(0,8)
Interpretive & Practical Hematology: PR: Admission to the MLS program, MLS 3305, MLS 4334. Instruction and practice of clinical hematology laboratory procedures at an off-campus affiliated hospital/clinical site. *Fall.*

MLS 4833L COM-BSBS 4(0,8)
Diagnostic Microbiology: PR: Admission to the MLS program, MLS 4460C. Instruction and practice of clinical microbiological procedures at an off-campus affiliated hospital/clinical site. *Fall.*

MLS 4910 COM-BSBS 1(1,0)
Introduction to Clinical Research: PR: MLS 3220C, MLS 4625, MLS 4550. Introduces MLS students to different types of research within the clinical setting. *Spring.*

MLS 4933 COM-BSBS 2(2,0)
Medical Technology Seminar: PR: MLS Senior status. Review of MLS coursework, case study discussions and preparation for certification. Graded S/U. *Spring.*

MMC 2004 COS-COMM 3(3,0)
Mass Media: Introduction to the nation's mass media, including newspapers, radio, television, magazines, advertising, and public relations. *Fall, Spring.*

MMC 3200 COS-COMM 3(3,0)
Mass Communication Law: PR: One of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. Legal rights and responsibilities of the mass media. *Fall, Spring.*

UCF Courses and Descriptions

MMC 3200H COS-COMM 3(3,0)
Honors Mass Communication Law: PR: SPC 1608, SPC 1603C, COM 1000 or C.I. Legal rights and responsibilities of the mass media. *Occasional.*

MMC 3420 COS-COMM 3(3,0)
Mass Media Research Methods: PR: R-TV or Ad-PR or Journalism major; or Mass Comm. minor; or C.I. Theory and methods of research used by media professionals and academics, focusing on radio-television and advertising-public relations research. *Fall, Spring.*

MMC 3630 COS-COMM 3(3,0)
Social Media as Mass Communication: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. Principles and practices of social media and its role in communicating to mass audiences. *Occasional.*

MMC 4263 COS-COMM 3(3,0)
New Media Technologies: PR: Majors only, RTV 3511. An examination of the technologies impacting the communications media environment and society. *Occasional.*

MMC 4300 COS-COMM 3(3,0)
International Media: PR: Junior standing or C.I. The student will analyze different communication systems from around the world. There will be at least six case studies from any of these areas - Asia, Latin American, Western Europe, Middle East, Africa. *Occasional.*

MMC 4303 COS-COMM 3(3,0)
Hispanics in Media in the US: PR: SPC 1603 or SPC 1608 or COM 1000, or C.I. Examines history and growth of Hispanics/Latinos in US media, including early depictions in media and current landscape of Spanish and English Hispanic/Latino Media. *Spring.*

MMC 4411 COS-COMM 3(3,0)
Ad-PR Campaigns: PR: Ad-PR majors only; ADV 3008 and PUR 4000 and either PUR 3100 or ADV 4101, and either PUR 4941 or ADV 4941. Planning and managing communication campaigns that integrate both advertising and public relations strategies. Capstone. *Fall, Spring.*

MMC 4602 COS-COMM 3(3,0)
Contemporary Media Issues: PR: RTV 3007 or C.I. Relationship between the mass media and society; examination of social and ethical issues and responsibilities of the media's relationship with government. *Occasional.*

MSL 1001C ECS-AROTC 2(1,1)
Foundations of Officership: Examines the unique duties and responsibilities of officers, organization and role of the Army, reviews skills pertaining to fitness and communication, and analyze Army values and expected behavior. May be repeated for credit. *Fall.*

MSL 1002C ECS-AROTC 2(1,1)
Basic Leadership: Presents fundamental leadership concepts and doctrine; practice basic skills that underlie effective problem solving; examine the officer experience. *Spring.*

MSL 2101C ECS-AROTC 2(1,1)
Individual Leadership Studies: Develops knowledge of self, self-confidence, and leadership skills; develop problem solving and critical thinking skills; apply communication, feedback, and conflict resolution skills. *Fall.*

MSL 2102C ECS-AROTC 2(1,1)
Leadership and Teamwork: Focuses on self-development guided by knowledge of self and group processes; challenges current beliefs, knowledge and skills. *Spring.*

MSL 3201C ECS-AROTC 4(3,1)
Leadership and Problem Solving: PR: Junior standing. Examines skills that underlie effective problem solving; analyzes military missions and plan military operations; and executes squad battle drills. *Fall.*

MSL 3202C ECS-AROTC 4(3,1)
Leadership and Ethics: PR: MSL 3201C. Probes leadership responsibilities that foster an ethical command climate; develops cadet leadership competencies; applies principles and techniques of effective written and oral communication. *Spring.*

MSL 4301C ECS-AROTC 4(3,1)
Leadership and Management: PR: MSL 3202C. Discuss staff organization, functions, and processes, analyze counseling responsibilities and methods, apply leadership and problem solving principles to a complex case study/simulation. *Fall.*

MSL 4302C ECS-AROTC 4(3,1)
Officership: PR: MSL 4301C. Capstone course to explore topics relevant to second lieutenants entering the Army; describes legal aspects of decision making and leadership; and analyzes Army organization from tactical to strategic level. *Spring.*

MTG 4212 COS-MATH 4(4,0)
Modern Geometries: PR: MAC 2311C and MHF 3302. Sets of axioms and finite geometries, groups of transformations, Euclidean motions of 2-space and 3-space, convexity in 2-space and 3-space. Euclidean geometry of polygon and circle, constructible numbers, constructions and non-Euclidean geometry. *Fall.*

MTG 4254 COS-MATH 3(3,0)
Introduction to Differential Geometry: PR: MAC 2313 and MAS 3106, or C.I. Topics include curves and surfaces, differential manifolds, tangent space, differentials, curvature and torsion tensors, connections, covariant differentiation, Lie derivative, integration on manifolds, and Riemannian manifolds. *Occasional.*

MTG 4302 COS-MATH 3(3,0)
Introduction to Topology: PR: MHF 3302 and MAS 3106 or C.I. Metric spaces, topological spaces, limit points, continuity, compactness, and connectedness. *Spring.*

MTG 4934 COS-MATH 3(3,0)
Topics in Topology and Geometry: PR: MAS 3106 or C.I. Advanced topics in geometry and topology. Selection of topics will vary. May be used in the degree program a maximum of 3 times. *Occasional.*

MTG 5253 COS-MATH 3(3,0)
Introduction to Differential Geometry: PR: MAC 2313 or equivalent or C.I. Curves and surfaces in 2D and 3D, covariant derivative of a vector field, geodesics, Gauss-Bonnet Theorem. *Fall.*

MTG 5256 COS-MATH 3(3,0)
Differential Geometry: PR: MAA 4227, graduate status or senior standing, or C.I. Differentiable manifolds, tangent space and tangent bundle, flows and vector fields, Lie derivatives, cotangent space and cotangent bundles, Riemann metrics, connections and geodesics, applications in classical mechanics. *Occasional.*

MUC 1101C CAH-MUSIC 2(1,1)
Composition I: PR: MUC 1122 and MUC 1014 each with a grade of "C" (2.0) or better or C.I. Creative work in small forms. May be repeated for credit. *Fall, Spring.*

MUC 2104C CAH-MUSIC 2(1,1)
Composition II: PR: MUC 1101C and Music or composition major. Continuation of Composition I. Competence determined by faculty jury. May be repeated for credit. *Fall, Spring.*

MUC 3105C CAH-MUSIC 3(1,1)
Composition III: PR: MUC 2104C and competence determined by faculty jury. Continued study of composition, with additional intensive work expected for composition majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MUC 4106C CAH-MUSIC 4(1,1)
Composition IV: PR: MUC 3105C and competence determined by faculty jury. Intensive advanced study of composition for composition majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MUC 4950 CAH-MUSIC 0(0,0)
Composition Recital: CR: MUC 4106C. Culminating public concert of works written while studying Composition I-IV. Graded S/U. *Odd Fall.*

MUC 5112 CAH-MUSIC 2(1,0)
Composition V: PR: Graduate standing in music education or C.I. Advanced music composition at the graduate level. May be used in the degree program a maximum of 4 times. *Occasional.*

MUE 2040 CAH-MUSIC 2(2,0)
Introduction to Music Education: An introduction to music education covering philosophy, history, and current practice and trends. Observation in schools required. *Fall.*

MUE 2211 ED-TL&L 3(3,0)
Early Childhood Music and Movement: An examination of the role of music and creative movement in the lives of young children. *Occasional.*

MUE 2346 CAH-MUSIC 1(0,2)
Vocal Techniques: PR: Music major or C.I. Vocal function, anatomy, and pedagogical methodology with applications for K-12 teaching. *Odd Spring.*

MUE 2440 CAH-MUSIC 1(0,2)
String Techniques: PR: MUED major, junior standing or C.I. Class instruction in string playing and pedagogical techniques. *Spring.* M&S fee \$30.00

MUE 2450 CAH-MUSIC 1(1,0)
Woodwind Techniques I: PR: MUED major, Junior standing or C.I. Class instruction in woodwind playing and pedagogical techniques. *Fall.*

MUE 2460 CAH-MUSIC 1(0,2)
Brass Techniques: PR: MUED major, junior standing or C.I. Class instruction in brass playing and pedagogical techniques. May be repeated for credit. *Fall.*

MUE 2470 CAH-MUSIC 1(0,2)
Percussion Techniques: PR: MUED major, junior standing or C.I. Class instruction in percussion playing and pedagogical techniques. May be repeated for credit. *Spring.* M&S fee \$35.00

MUE 2471 CAH-MUSIC 1(1,1)
Percussion Techniques II: PR: MUE 2470 or C.I. Additional performing and teaching techniques of the percussion family, as relevant to today's instrumental music teachers. *Odd Spring.* M&S fee \$35.00

MUE 3333 CAH-MUSIC 3(3,0)
Music Learning Theory and Assessment: PR: Admission to BME Professional Program. Learning theory and practical applications of assessment techniques as applied in the music classroom. *Fall.*

MUE 3353 CAH-MUSIC 2(2,0)
General Music Literature and Techniques: PR: MUE 2040. Diverse literature and techniques for the general music classroom. *Odd Spring.*

MUE 3451 CAH-MUSIC 1(1,0)
Woodwind Techniques II: PR: MUE 2450, MUED major, Junior standing or C.I. Continuation of Woodwind Techniques I, with emphasis on double reeds. *Occasional.*

MUE 3461 CAH-MUSIC 1(1,1)
Brass Techniques II: PR: MUE 2460. Continued study of performance techniques, teaching skills, resources, and materials required to teach brass instruments to beginning, middle, and high school level students. *Odd Spring.*

MUE 3693 CAH-MUSIC 2(2,0)
Technology in Music Education: PR: MUE 2040 or C.I. Productivity software, classroom management tools, web design and other technological tools for classroom teaching. *Odd Spring.*

MUE 3942 CAH-MUSIC 3(3,0)
Music Internship I: PR: MUE 4311, MUE 3333, EDG 4410, TSL 4080, EDF 4603 and RED 4043. Students experience various roles of a music teacher in elementary and secondary settings, including observation, micro-teaching, and the completion of various assignments. Graded S/U. *Fall, Spring.*

MUE 4311 CAH-MUSIC 2(2,0)
Elementary School Music Methods: PR: Junior standing, MUED major. Organization and administration of instruction for comprehensive music education, K-6; instructional planning, techniques, and materials for elementary music education. *Fall.*

MUE 4331 CAH-MUSIC 3(3,0)
Secondary Choral Methods I: PR: Admission to BME Professional Program. Examination of vocal and choral literature, planning skills and rehearsal techniques for choral groups. *Fall.*

UCF Courses and Descriptions

MUE 4332 CAH-MUSIC 3(3,0)
Secondary Instrumental Methods I: PR: Admission to BME Professional Program. Wind, percussion, and string teaching methods for beginning and middle level students in a large classroom setting. *Fall.*

MUE 4335 CAH-MUSIC 3(3,0)
Secondary Choral Methods II: PR: MUE 4331 with a grade of "C" (2.0) or better. Continued examination of vocal and choral literature, planning skills and rehearsal techniques for choral groups. *Odd Spring.*

MUE 4337 CAH-MUSIC 3(3,0)
Secondary Instrumental Methods II: PR: MUE 4332 with grade of "C" (2.0) or better. Wind and percussion teaching methods for high school students in a large classroom setting. *Odd Spring.*

MUE 4354 CAH-MUSIC 3(3,0)
General Music: ORFF Level I: PR: Junior Standing or C.I. ORFF SCHULWERK methods of music education for pre-K - grade 8. Development of personal and pedagogical skills in singing, moving, playing Orff instruments, recorder and compositions. *Occasional.*

MUE 4393 CAH-MUSIC 2(2,0)
Music and Students with Special Needs: PR: MUE 2040 or C.I. Consideration of the general education music curriculum in regards to students with disabilities and special needs. *Odd Fall.*

MUE 4441 CAH-MUSIC 3(3,0)
String Methods: PR: MUE 4332. String teaching methods for high school students in a large classroom setting. *Odd Spring.*

MUE 4791 CAH-MUSIC 0(0,0)
BME ePortfolio: PR: MUE 3742 Music Internship I; CR: MUE 4943 Music Internship II. Required electronic portfolio for all Bachelor of Music Education majors to be taken in conjunction with MUE 4943 Music Internship II. *Fall/Spring.*

MUE 4943 CAH-MUSIC 12(12,0)
Music Internship II: PR: MUE 3942. Student Teaching in an elementary or secondary school under supervision of a certified classroom teacher. Graded S/U. *Fall/Spring.*

MUE 5348C CAH-MUSIC 4(4,0)
K-12 Music Methods: PR: Graduate standing in Music Education or C.I. Organization and administration of instruction for comprehensive music education, K-12. Instructional planning, techniques, and materials for general, choral, and instrumental music education. *Spring.*

MUE 5921 CAH-MUSIC 2(2,0)
Music Education Workshop: PR: Graduate standing or C.I. Variable topics in Music Education to offer hands-on instruction in a workshop format. May be used in the degree program a maximum of 4 times only when course content is different. *Occasional.*

MUG 3104 CAH-MUSIC 2(1,1)
Basic Conducting: PR: MUT 1122 or C.I. Fundamental techniques and practice in conducting. *Fall.*

MUG 3202 CAH-MUSIC VAR(VAR,VAR)
Choral Conducting and Materials: PR: MUG 3104. Fundamental principles of choral conducting and rehearsal techniques including an examination of materials. *Spring.*

MUG 3302 CAH-MUSIC VAR(VAR,VAR)
Instrumental Conducting and Materials: PR: MUG 3104. Fundamental principles of instrumental conducting and rehearsal techniques including an examination of materials. *Spring.*

MUH 2017 CAH-MUSIC 3(3,0)
Survey of Rock Music: Rise of rock music to prominence, and its impact on audience reception. No musical background required. *Fall/Spring.*

MUH 2017H CAH-MUSIC 3(3,0)
Honors Survey of Rock Music: PR: Consent of Honors. Rock music, 1950s to present, with emphasis on cultural and musical meaning. With Honors content *Even Fall.*

MUH 2019 CAH-MUSIC 3(3,0)
American Popular Music, 1840s-present: Musical and cultural development of popular music in the United States from the 1840s to the present. *Fall/Spring.*

MUH 2021 CAH-MUSIC 3(3,0)
Survey of Country Music: Country music and its historical developments from the 1920s to present. *Occasional.*

MUH 2071C CAH-MUSIC 1(0,1)
World Music Survey and Performance Laboratory: PR: MUT 1122 or C.I. An introduction to different musical cultures including West African, Caribbean, South American, and Asian. *Occasional.*

MUH 3211 CAH-MUSIC 3(3,0)
Music History and Literature I: PR: MUH 3633 and MUT 1122 with a grade of "C" (2.0) or better. History of Western European art music from Antiquity to 1800. *Fall/Spring.*

MUH 3212 CAH-MUSIC 3(3,0)
Music History and Literature II: PR: MUH 3211 with grade of "C" (2.0) or better. History of Western European art music from 1800 to present day *Fall/Spring.*

MUH 3633 CAH-MUSIC 3(3,0)
Music in the United States: PR: MUL 2720 and MUT 1122 with grade of "C" (2.0) or better. Music of the United States of America from pre-Revolutionary times to present. Includes vernacular, jazz, popular, and art music traditions indigenous to the USA. *Fall/Spring.*

MUH 4218 CAH-MUSIC 1(1,0)
Review of Music History: PR: C.I. A review of music history from Ancient Greece to the present. *Occasional.*

MUH 4322 CAH-MUSIC 3(3,0)
Medieval and Renaissance Music: PR: MUH 3211 and MUH 3212 with grade of "C" (2.0) or better. Music and culture of Western Europe in the era c. 450-1600. *Even Fall.*

MUH 4341 CAH-MUSIC 3(3,0)
Music of the Baroque: PR: MUH 3211 and MUH 3212 with grade of "C" (2.0) or better. Music and culture during the Baroque period, 1600-1750. *Occasional.*

MUH 4351 CAH-MUSIC 3(3,0)
Eighteenth-Century Music: PR: MUH 3211 and MUH 3212 with grade of "C" (2.0) or better. Music and culture of Western Europe in the era c. 1700-1830. *Even Fall.*

MUH 4361 CAH-MUSIC 3(3,0)
Music of the 19th Century: PR: MUH 3211 and MUH 3212 with grade of "C" (2.0) or better. Examination of Western European and American art music from the nineteenth century. *Odd Fall.*

MUH 4371 CAH-MUSIC 3(3,0)
Music Since 1900: PR: MUH 3211 and MUH 3212 with grade of "C" (2.0) or better. Western art music since 1900. *Odd Spring.*

MUH 4814 CAH-MUSIC 3(3,0)
Jazz Styles and Analysis: PR: MUT 3171 and MUL 2016 with grade of "C" (2.0) or better. Historical style periods and master artists in jazz music. *Odd Spring.*

MUH 5326 CAH-MUSIC 3(3,0)
Medieval and Renaissance Music: PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 450-1600. *Occasional.*

MUH 5345 CAH-MUSIC 3(3,0)
Music of the Baroque: PR: Graduate standing in music or music education or C.I. Baroque music, 1600-1750. Investigates Baroque musical styles and composers within their diverse historical, musical, and cultural contexts. *Even Spring.*

MUH 5356 CAH-MUSIC 3(3,0)
Eighteenth-Century Music: PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 1700-1800 *Occasional.*

MUH 5365 CAH-MUSIC 3(3,0)
Music of the 19th Century: PR: Graduate standing in Music or C.I. Western Art Music of the 19th Century. *Odd Fall.*

MUH 5375 CAH-MUSIC 3(3,0)
Music Since 1900: PR: Graduate standing in Music Education or C.I. Music and culture of Western and American art Music from c. 1900 to the present. *Occasional.*

MUH 5665 CAH-MUSIC 3(3,0)
Development of Opera: PR: Graduate standing in Music or C.I. An in-depth examination of Western European opera, from its origins around 1600 until the present day. *Even Spring.*

MUH 5816 CAH-MUSIC 3(3,0)
Jazz Styles and Analysis: PR: Graduate standing or C.I. Advanced study of historical style periods and master artists in jazz music. *Odd Fall.*

MUL 2010 CAH-MUSIC 3(2,1)
Enjoyment of Music: PR: Non-music majors only. Designed to develop an understanding of musical principles and techniques for listening to music. *Fall/Spring.*

MUL 2010H CAH-MUSIC 3(3,0)
Honors Enjoyment of Music: PR: Consent of Honors. Designed to develop an understanding of musical principles and techniques for listening to music, with Honors content. *Fall/Spring.*

MUL 2014 CAH-MUSIC 3(3,0)
Introduction to Music History and Literature: PR: Music major or C.I. Musical repertoires and cultures from the Western art music tradition, American jazz, and non-western music. *Odd Spring.*

MUL 2016 CAH-MUSIC 3(3,0)
Evolution of Jazz: Survey of jazz literature and performance. *Fall/Spring.*

MUL 2720 CAH-MUSIC 3(3,0)
Music of the World: Music in cross-cultural context. Relation of music to religion and society. *Fall/Spring.*

MUL 2721 CAH-MUSIC 3(3,0)
Survey of Latin American Music: Survey of Latin-American and Caribbean music, including musical traditions as well as historical and cultural connections. *Occasional.*

MUL 3381 CAH-MUSIC 3(3,0)
Contemporary Popular Music: PR: MUL 2010 or MUT 1122 or C.I. History and analysis of selected genres in recent popular music. Music reading not required. *Spring.*

MUL 3400 CAH-MUSIC 2(1,1)
Piano Literature I: PR: Major in Music or C.I. Survey of stringed keyboard literature from the 16th century to the present, with emphasis on technical, formal and performance problems. *Odd Fall.*

MUL 3401 CAH-MUSIC 2(1,1)
Piano Literature II: PR: MUL 3400. Continuation of MUL 3400. *Even Spring.*

MUL 3463 CAH-MUSIC 2(2,0)
Percussion Literature: PR: Music major (Percussion), Junior standing, C.I. Survey of music written for percussion instruments. *Odd Fall.*

MUL 3602 CAH-MUSIC 3(3,0)
Song Literature: PR: MUL 2014 or C.I. Classical song repertoire in English and common foreign languages, and proven methods of effective song study. *Odd Fall.*

MUL 4437 CAH-MUSIC 3(3,0)
String Literature and Pedagogy: PR: MUL 2014. Important literature written for string instruments, and basic concepts and techniques to teach string. *Odd Spring.*

MUL 4438 CAH-MUSIC 3(3,0)
Guitar Literature and Pedagogy: PR: MVS 2426 or C.I. Overview of classical guitar literature, history, and pedagogy from the Renaissance to the present. *Odd Fall.*

MUL 4443 CAH-MUSIC 3(3,0)
Brass Literature and Pedagogy: PR: MUL 2014. Important literature written for brass instruments, and basic concepts and techniques to teach brass. *Odd Spring.*

UCF Courses and Descriptions

MUL 4444 CAH-MUSIC 3(3,0)
Woodwind Literature and Pedagogy: PR: Music major and MUL 2014. Important literature written for woodwind instruments, and basic concepts and techniques to teach woodwinds. *Odd Spring.*

MUL 4552 CAH-MUSIC 3(3,0)
Band Literature: PR: MUT 1122 and MUL 2014, or C.I. Survey of materials for use in the public school band classroom, including beginning band methods, technique books, and musical selections appropriate for concert performance. *Fall.*

MUL 4643 CAH-MUSIC 3(3,0)
Choral Literature: PR: "C" (2.0) or better in MUH 3211 and MUH 3212, or C.I. Choral music from its beginnings to the present with consideration of historical perspective; genres, styles, and performance practice, major composers, and representative works. *Fall.*

MUL 5436 CAH-MUSIC 3(3,0)
Guitar Literature and Pedagogy: PR: Graduate standing in Music or C.I. Survey of significant repertoire and pedagogy for classical guitar. *Odd Spring.*

MUL 5439 CAH-MUSIC 3(3,0)
String Literature and Pedagogy: PR: Graduate standing in Music or C.I. Study of string literature from the Baroque period to the 20th century, along with prominent pedagogical principles. *Odd Fall.*

MUL 5447 CAH-MUSIC 3(3,0)
Woodwind Literature and Pedagogy: PR: Graduate standing in Music or C.I. Major works written for woodwind instruments, as well as the study of the basic concepts and techniques fundamental to teaching woodwind instruments. *Odd Spring.*

MUL 5448 CAH-MUSIC 3(3,0)
Brass Literature and Pedagogy: PR: Graduate standing in Music or C.I. Significant brass repertoire, study materials and a review of teaching techniques for artistic brass performance. *Even Fall.*

MUL 5555 CAH-MUSIC 3(3,0)
Band Literature: PR: Graduate standing or C.I. Survey of materials for use in the public school band classroom, including beginning band methods, technique books, and musical selections appropriate for concert performance. *Occasional.*

MUL 5645 CAH-MUSIC 3(3,0)
Choral Literature: PR: Graduate standing or C.I. Survey of choral music from its beginnings to the present with consideration of historical perspective; genres, styles and performance practice; major composers and representative works. *Occasional.*

MUM 5806 CAH-MUSIC 3(3,0)
Performing Arts Management: PR: Graduate standing or senior standing or C.I. Structure of nonprofit performing arts organization (PAOs), examining the fundamental elements of administration, audience development, marketing, and fund-raising. *Spring.*

MUN 2442 CAH-MUSIC 1(1,0)
Percussion/Mallet Ensemble: PR: C.I. Preparation and performance of music for percussion with mallets. May be repeated for credit. *Fall.* M&S fee \$30.00

MUN 3113 CAH-MUSIC 2(0,8)
Marching Band: PR: Admission by audition. Preparation for appearance at football games and special occasions. May be repeated for credit. *Fall.* M&S fee \$37.00

MUN 3123L CAH-MUSIC 1(0,3)
Concert Band: PR: C.I. No audition required and open to all majors. Study and performance of music for large ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3133 CAH-MUSIC 1(0,4)
Symphonic Band: PR: Open to all students by audition. Auditioned performance ensemble that presents multiple concerts each semester and performs a variety of musical literature for winds and percussion. *Fall/Spring.* M&S fee \$20.00

MUN 3143 CAH-MUSIC 1(0,4)
Wind Ensemble: PR: Open to all students by audition. Study and performance of music for wind ensemble and band. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3283 CAH-MUSIC 1(0,5)
Symphony Orchestra: PR: Audition. Open to all students by audition. Rehearsal and performance of works from the symphonic repertoire. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3313 CAH-MUSIC 1(3,0)
University Chorus: PR: C.I. Open to all students by audition. Study and performance of large ensemble music. Possible tours. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3323 CAH-MUSIC 1(0,3)
Women's Chorus: PR: Audition and C.I. Study and performance of music for women's voices. Open to all students. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3343L CAH-MUSIC 1(0,3)
Chamber Singers: PR: C.I. A chamber choir of advanced singers. Open to all students by audition. Additional rehearsals and commitments required. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3423 CAH-MUSIC 1(0,2)
Woodwind Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3426 CAH-MUSIC 1(1,0)
Saxophone Ensemble: PR: Students must pass an audition in front of the instructor. An in-depth study and performance of music written for an ensemble comprised of all saxophones. May be used in the degree program a maximum of 8 times. *Fall/Spring.* M&S fee \$20.00

MUN 3427 CAH-MUSIC 1(1,0)
Flute Ensemble: PR: Student must pass an audition in front of the instructor. Study and performance of music written for an ensemble comprised of all flutes. May be used in the degree program a maximum of 8 times. *Fall/Spring.* M&S fee \$20.00

MUN 3431L CAH-MUSIC 1(0,2)
Brass Quintet: PR: Audition and Consent of Instructor. Rehearsal and performance of music for brass quintet. May be used in the degree program a maximum of 4 times only when course content is different. *Fall/Spring.* M&S fee \$20.00

MUN 3433 CAH-MUSIC 1(0,2)
Brass Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3437 CAH-MUSIC 1(1,0)
Trumpet Ensemble: PR: C.I. Rehearsal and performance of music for trumpet ensembles. May be repeated for credit. *Occasional.* M&S fee \$20.00

MUN 3443 CAH-MUSIC 1(0,2)
Percussion Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$35.00

MUN 3444 CAH-MUSIC 1(1,0)
Mallet Ensemble: PR: C.I. Preparation and performance of music for mallet ensemble. May be repeated for credit. *Fall/Odd Spring.* M&S fee \$35.00

MUN 3453 CAH-MUSIC 1(0,3)
Piano Ensemble: PR: Open to Music Majors or C.I. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3483 CAH-MUSIC 1(0,2)
String Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3487 CAH-MUSIC 1(0,2)
Guitar Ensemble: PR: Audition or C.I. Study and performance of music for multiple guitars. May be used in the degree program a maximum of 8 times. *Odd Spring.* M&S fee \$20.00

MUN 3713 CAH-MUSIC 1(0,4)
Jazz Ensemble: PR: C.I. Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3714 CAH-MUSIC 1(0,2)
Jazz Combo: PR: Junior standing and C.I. Rehearsal and performance of music for small jazz combo, emphasizing improvisation. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 3813 CAH-MUSIC 1(1,1)
Steel Drum Ensemble: PR: C.I. Rehearsal and performance of music arranged for steel drum band. May be repeated for credit. *Fall/Spring.* M&S fee \$20.00

MUN 4476 CAH-MUSIC 1(0,2)
Early Music Ensemble: PR: C.I. Study and performance of pre-classical music. May be repeated for credit. *Fall/Spring.* M&S fee \$5.00

MUN 5125 CAH-MUSIC 1(0,3)
Concert Band: PR: Open to all graduate students by audition. Study and performance of music for large ensembles. May be used in the degree program a maximum of 4 times. *Odd Fall.* M&S fee \$20.00

MUN 5145 CAH-MUSIC 1(0,4)
Wind Ensemble: PR: Open to all graduate students by audition. Study and performance of music for wind ensemble and band. May be used in the degree program a maximum of 4 times. *Odd Fall.* M&S fee \$20.00

MUN 5215 CAH-MUSIC 1(0,5)
Symphony Orchestra: PR: Open to all graduate students by audition. Rehearsal and performance of works from the symphonic repertoire. May be used in the degree program a maximum of 4 times. *Odd Fall.* M&S fee \$20.00

MUN 5325 CAH-MUSIC 1(0,3)
Women's Chorus: PR: Open to all graduate students by audition. Study and performance of choral music for women's voices. May be used in the degree program a maximum of 4 times. *Odd Fall.* M&S fee \$20.00

MUN 5368L CAH-MUSIC 1(0,3)
Graduate Chamber Singers: PR: Graduate standing in Music Education and C.I. A select, mixed choir that explores music appropriate to a small, advanced ensemble, and performs in the Orlando area each semester. May be used in the degree program a maximum of 5 times. *Fall/Spring.* M&S fee \$20.00

MUN 5385L CAH-MUSIC 1(0,3)
Graduate University Chorus: PR: Graduate standing in Music Education and C.I. Study and performance of large ensemble music. May be used in the degree program a maximum of 5 times. *Occasional.* M&S fee \$20.00

MUN 5445 CAH-MUSIC 1(0,2)
Percussion Ensemble: PR: Open to all graduate students by audition. Study and performance of music for small percussion ensembles. May be used in the degree program a maximum of 4 times. *Odd Fall.* M&S fee \$35.00

MUN 5465L CAH-MUSIC 1(0,2)
Graduate Chamber Music: PR: Graduate standing in Music Education and C.I. The study and performance of vocal and/or instrumental chamber ensemble literature. Flexible instrumentation to meet student needs. May be used in the degree program a maximum of 5 times. *Occasional.* M&S fee \$20.00

MUN 5478L CAH-MUSIC 1(0,3)
Early Music Ensemble: PR: Graduate standing in Music Education and C.I. Graduate ensemble experience with instruments and repertoire of the Medieval, Renaissance, and Baroque periods. May be used in the degree program a maximum of 5 times. *Occasional.* M&S fee \$5.00

MUN 5715L CAH-MUSIC 1(0,4)
Jazz Ensemble: PR: Audition, graduate or senior standing, and C.I. Study and performance of jazz big band music. May be used in the degree program a maximum of 4 times only when course content is different. *Fall/Spring.* M&S fee \$20.00

MUN 5716L CAH-MUSIC 1(0,2)
Jazz Chamber Group: PR: Audition, graduate standing or senior standing, and C.I. Study and performance of jazz small group music. May be used in the degree program a maximum of 4 times. *Fall, Spring.* M&S fee \$20.00

MUO 2501C CAH-MUSIC 2(1,1)
Opera Skills: PR: Open to all students by audition. Integration of singing, acting, and movement in opera; explores basic stage movement, character preparation, and performance of opera arias. *Fall.*

MUO 3503L CAH-MUSIC 1(0,3)
Opera Workshop: PR: MUO 2501C, or C.I., and audition. Study, preparation, and performance of opera literature. May be used in the degree program a maximum of 8 times. *Occasional.* M&S fee \$70.00

MUO 5505L CAH-MUSIC 1(0,3)
Graduate Opera Workshop: PR: C.I. and audition. Study of audition techniques, operatic roles and repertoire, and characterization through performance. May be used in the degree program a maximum of 5 times. *Occasional.* M&S fee \$70.00

MUS 1010 CAH-MUSIC 0(9,2)
Music Forum: A series of special musical events required of music majors. Includes lectures and recitals by faculty, students, and guest artists. Graded S/U. May be repeated for credit. *Fall, Spring.*

MUS 1250 CAH-MUSIC 1(2,0)
IPA for Singers: PR: Music major or C.I. The International Phonetic Alphabet and its application to English, French, German, and Italian music written for voice. *Odd Fall.*

MUS 2360C CAH-MUSIC 3(2,2)
Introduction to Music Technology: PR: Music major or C.I. Utilization of computers and keyboards to acquire skills in MIDI sequencing, notation, CDs, and the Internet. *Fall, Spring.*

MUS 3254 CAH-MUSIC 2(2,0)
Italian and French Lyric Diction: PR: MUS 1250. Study and applications of the correct sung pronunciation of the Italian and French languages. *Odd Spring.*

MUS 3255 CAH-MUSIC 2(2,0)
German and English Lyric Diction: PR: MUS 1250. Study and applications of the correct sung pronunciation of the German and English languages. *Odd Spring.*

MUS 3953 CAH-MUSIC 0(1,0)
Recital Performance I: PR: Junior Level Applied Music and C.I. Public recital of 30 minutes to demonstrate performance skills. Graded S/U. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

MUS 4320 CAH-MUSIC 3(3,0)
Music Business and Industry: PR: MUS 2360C with a grade of "C" (2.0) or better. Today's music industry copyright, publishing, contracts and licensing. *Odd Fall.*

MUS 4674 CAH-MUSIC 3(3,0)
Health and Wellness for the Performing Musician: PR: MUT 2127 or C.I. Basic musculoskeletal anatomy, posture, common injuries and injury prevention, mental training, performance anxiety, practical performance, & pedagogic applications. *Even Spring.*

MUS 4900 CAH-MUSIC 3(3,0)
Music BA Capstone Project: PR: C.I. Self-designed project, completed under faculty supervision, that demonstrates ability to think critically and work independently while applying knowledge and skills from music and other subjects. Graded S/U. *Occasional.*

MUS 4905 CAH-MUSIC 1-4(1-4)
Directed Experience: PR: C.I. and Junior standing. Special topics of study and/or research as determined by student/faculty consultation. May be repeated for credit. *Occasional.*

MUS 4954 CAH-MUSIC 0(1,0)
Recital Performance II: PR: Senior level applied music and C.I. Public recital of 45 minutes to demonstrate performance skills. Graded S/U. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

MUS 5365 CAH-MUSIC 3(3,0)
Music and Technology: PR: Graduate status or senior standing, or C.I. The emergence of technology in music including MIDI, CD ROM, and the high-tech music classroom. *Occasional.*

MUS 5677 CAH-MUSIC 3(3,0)
Wellness for the Performing Musician: PR: Graduate standing in music education or C.I. Various techniques and methods of maintaining physical health and wellness for musicians. *Occasional.*

MUT 1004 CAH-MUSIC 3(3,0)
Fundamentals of Music I: Basic music theory and reading music. *Fall.*

MUT 1121 CAH-MUSIC 4(2,3)
Music Theory and Musicianship I: PR: MUT 1004 or C.I. Studies in music theory, both written and aural skills, including musical analysis, model composition, sight singing, ear training, and improvisation. *Odd Spring.*

MUT 1122 CAH-MUSIC 4(2,3)
Music Theory and Musicianship II: PR: MUT 1121 with a grade of "C" (2.0) or better. Continuation of MUT 1121. Studies in music theory, both written and aural skills, including musical analysis, model composition, sight singing, ear training, and improvisation. *Odd Spring.*

MUT 2126 CAH-MUSIC 4(2,3)
Music Theory and Musicianship III: PR: MUT 1122 with a grade of "C" (2.0) or better. Continuation of MUT 1122. Studies in music theory, both written and aural skills, including musical analysis, model composition, sight singing, ear training, and improvisation. *Odd Spring.*

MUT 2127 CAH-MUSIC 4(2,3)
Music Theory and Musicianship IV: PR: MUT 2126 with a grade of "C" (2.0) or better. Continuation of MUT 2126. Studies in music theory, both written and aural skills, including musical analysis, model composition, sight singing, ear training, and improvisation. *Odd Spring.*

MUT 3170 CAH-MUSIC 3(3,0)
Jazz Theory I: PR: MUT 1122 with a grade of "C" (2.0) or better. Study of theoretical concepts in jazz music, including practical keyboard applications. *Even Fall.*

MUT 3171 CAH-MUSIC 3(3,0)
Jazz Theory II: PR: MUT 3170 with a grade of "C" (2.0) or better. Advanced study of theoretical concepts in jazz music, including practical keyboard applications. *Odd Spring.*

MUT 3923 CAH-MUSIC 3(0,3)
Jazz Workshop: PR: MUT 3171 or C.I. Comprehensive musicianship in jazz studies. Improvisation, repertoire, leadership and collaboration, studied in the context of a jazz group. May be repeated up to four times. *Fall, Spring.*

MUT 4031 CAH-MUSIC 1(1,0)
Review of Music Theory: PR: C.I. A comprehensive review of harmonic and analytic skills. May be repeated for credit. *Occasional.*

MUT 4311 CAH-MUSIC 3(3,0)
Orchestration: PR: MUS 2360C and MUT 2127 with a grade of "C" (2.0) or better. Technical and aesthetic principles of writing for instruments of the concert orchestra. *Odd Spring.*

MUT 4401 CAH-MUSIC 3(3,0)
Counterpoint: PR: MUT 2127 with a grade of "C" (2.0) or better. Counterpoint in Western music from the 16th to the 20th Centuries. *Even Spring.*

MUT 4571 CAH-MUSIC 3(3,0)
Analysis of Twentieth-Century Music: PR: MUT 2127 with a grade of "C" (2.0) or better. Techniques of analysis for various styles of twentieth-century music. *Odd Fall.*

MUT 5316 CAH-MUSIC 3(3,0)
Orchestration: PR: Graduate standing in Music or C.I. Study of the various instruments commonly found in orchestras and wind ensembles and how to write for these instruments in combination. *Odd Spring.*

MUT 5381 CAH-MUSIC 3(3,0)
Arranging and Composing Music: PR: Satisfactory placement tests in theory, sight-singing, and ear training, and graduate status or senior standing or C.I. Arranging and composing music for instrumental and vocal ensembles. Some emphasis on compositional techniques of the 20th century. *Occasional.*

MUT 5445 CAH-MUSIC 3(3,0)
Counterpoint: PR: Graduate standing in Music or C.I. Principles of counterpoint and the study of contrapuntal styles in Western music from the 16th century to the present day. *Even Spring.*

MUT 5620 CAH-MUSIC 3(3,0)
Analysis of Twentieth Century Music: PR: Graduate standing in Music or C.I. Analysis of music in a selection of the different styles practiced in the 20th century, with an emphasis on Western art music. *Fall.*

MUT 5936 CAH-MUSIC 3(3,0)
Music Theory Seminar: PR: Graduate standing in music education or C.I. One or more issues of importance in music theory with emphasis on recent scholarly literature and debates. May be used in the degree program a maximum of 4 times. *Occasional.*

MVB 1211 CAH-MUSIC 1(0,1)
Secondary Trumpet: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in trumpet. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVB 1212 CAH-MUSIC 1(0,1)
Secondary French Horn: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in French Horn. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVB 1213 CAH-MUSIC 1(0,1)
Secondary Trombone: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in trombone. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVB 1214 CAH-MUSIC 1(0,1)
Secondary Euphonium: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in euphonium. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVB 1215 CAH-MUSIC 1(0,1)
Secondary Tuba: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in tuba. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVB 1411 CAH-MUSIC 2(1,1)
Trumpet I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVB 1412 CAH-MUSIC 2(1,1)
French Horn I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVB 1413 CAH-MUSIC 2(1,1)
Trombone I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVB 1414 CAH-MUSIC 2(1,1)
Euphonium I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVB 1415 CAH-MUSIC 2(1,1)
Tuba I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Even Fall, Spring.*

MVB 2421 CAH-MUSIC 2(1,1)
Trumpet II: PR: MVB 1411 and competence determined by faculty jury. Continuation of MVB 1411. May be repeated for credit. *Fall, Spring.*

MVB 2422 CAH-MUSIC 2(1,1)
French Horn II: PR: MVB 1412 and competence determined by faculty jury. Continuation of MVB 1412. May be repeated for credit. *Fall, Spring.*

MVB 2423 CAH-MUSIC 2(1,1)
Trombone II: PR: MVB 1413 and competence determined by faculty jury. Continuation of MVB 1413. May be repeated for credit. *Fall, Spring.*

UCF Courses and Descriptions

MVB 2424 CAH-MUSIC 2(1,1)
Euphonium II: PR: MVB 1414 and competence determined by faculty jury. Continuation of MVB 1414. May be repeated for credit. *Fall, Spring.*

MVB 2425 CAH-MUSIC 2(1,1)
Tuba II: PR: MVB 1415 and competence determined by faculty jury. Continuation of MVB 1415. May be repeated for credit. *Fall, Spring.*

MVB 3431 CAH-MUSIC 2-3(1,1)
Trumpet III: PR: MVB 2421. Continued study of performance skills of the trumpet, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 3432 CAH-MUSIC 2-3(1,1)
French Horn III: PR: MVB 2422 and competence determined by faculty jury. Continued study of performance skills of the French horn, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 3433 CAH-MUSIC 2-3(1,1)
Trombone III: PR: MVB 2423 and competence determined by faculty jury. Continued study of performance skills of the trombone, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 3434 CAH-MUSIC 2-3(1,1)
Euphonium III: PR: MVB 2424 and competence determined by faculty jury. Continued study of performance skills of the euphonium, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 3435 CAH-MUSIC 2-3(1,1)
Tuba III: PR: MVB 2425 and competence determined by faculty jury. Continued study of performance skills of the tuba, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 4441 CAH-MUSIC 4(1,1)
Trumpet IV: PR: MVB 3431. Intensive advanced performance study of the trumpet, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 4442 CAH-MUSIC 4(1,1)
French Horn IV: PR: MVB 3432 and competence determined by faculty jury. Intensive advanced performance study of the French horn, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 4443 CAH-MUSIC 4(1,1)
Trombone IV: PR: MVB 3433 and competence determined by faculty jury. Intensive advanced performance study of the trombone, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 4444 CAH-MUSIC 4(1,1)
Euphonium IV: PR: MVB 3434 and competence determined by faculty jury. Intensive advanced performance study of the euphonium, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 4445 CAH-MUSIC 4(1,1)
Tuba IV: PR: MVB 3435 and competence determined by faculty jury. Intensive advanced performance study of the tuba, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVB 5451 CAH-MUSIC 2(1,0)
Trumpet V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVB 5452 CAH-MUSIC 2(1,0)
French Horn V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVB 5453 CAH-MUSIC 2(1,0)
Trombone V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVB 5454 CAH-MUSIC 2(1,0)
Baritone V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVB 5455 CAH-MUSIC 2(1,0)
Tuba V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVJ 1010 CAH-MUSIC 2(1,1)
Jazz Piano I: PR: Music major or C.I. Scale studies, arpeggios, chord voicings, and other techniques included in fundamentals of jazz piano skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 1213 CAH-MUSIC 2(1,1)
Jazz Guitar I: PR: Music major or C.I. Scales, arpeggios, chord voicings, and other techniques included in fundamentals of jazz guitar skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 1214 CAH-MUSIC 2(1,1)
Jazz Bass I: PR: Music major or C.I. Basic Jazz Bass skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 1219 CAH-MUSIC 2(1,1)
Jazz Drum Set I: PR: Music major or C.I. Basic Jazz Drum Set skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 2220 CAH-MUSIC 2(1,1)
Jazz Piano II: PR: MVJ 1010. Continuation of MVJ 1010. Scale Studies, arpeggios, chord voicings, and other techniques included in progressive jazz piano skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 2223 CAH-MUSIC 2(1,1)
Jazz Guitar II: PR: MVJ 1213. Continuation of MVJ 1213. Scales, arpeggios, chord voicings and other techniques included in progressive jazz guitar skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 2224 CAH-MUSIC 2(1,1)
Jazz Bass II: PR: MVJ 1214. Continuation of MVJ 1214. Progressive Jazz Bass skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 2229 CAH-MUSIC 2(1,1)
Jazz Drum Set II: PR: MVJ 1219. Continuation of MVJ 1219. Progressive Jazz Drum Set skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 3230 CAH-MUSIC 3(1,1)
Jazz Piano III: PR: MVJ 2220. Continuation of MVJ 2220. Scale studies, arpeggios, chord voicings, and other techniques included in progressive jazz piano skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 3233 CAH-MUSIC 3(1,1)
Jazz Guitar III: PR: MVJ 2223. Continuation of MVJ 2223. Scales, arpeggios, chord voicings and other techniques included in progressive jazz guitar skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 3234 CAH-MUSIC 3(1,1)
Jazz Bass III: PR: MVJ 2224. Continuation of MVJ 2224. Progressive Jazz Bass skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 3339 CAH-MUSIC 3(1,1)
Jazz Drum Set III: PR: MVJ 2229. Continuation of MVJ 2229. Progressive Jazz Drum Set skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 4240 CAH-MUSIC 4(1,1)
Jazz Piano IV: PR: MVJ 3230. Continuation of MVJ 3230. Scale studies, arpeggios, chord voicings, and other techniques included in advanced jazz piano skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 4243 CAH-MUSIC 4(1,1)
Jazz Guitar IV: PR: MVJ 3233. Continuation of MVJ 3233. Scales, arpeggios, chord voicings, and other techniques included in advanced jazz guitar skills. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 4244 CAH-MUSIC 4(1,1)
Jazz Bass IV: PR: MVJ 3234. Continuation of MVJ 3234. Advanced Jazz Bass skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 4349 CAH-MUSIC 4(1,1)
Jazz Drum Set IV: PR: MVJ 3339. Continuation of MVJ 3339. Progressive Jazz Drum Set skills, including sound concept, technique, literature, style, history, and heritage. May be used in the degree program a maximum of 3 times. *Odd Spring.*

MVJ 5350C CAH-MUSIC 2(1,1)
Jazz Piano V: PR: Audition, graduate standing or senior standing, and C.I. Study of jazz piano literature, styles, and techniques. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVJ 5353C CAH-MUSIC 2(1,1)
Jazz Guitar V: PR: Audition, graduate standing or senior standing, and C.I. Study of jazz guitar literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different. *Fall, Spring.*

MVJ 5354C CAH-MUSIC 2(1,1)
Jazz Bass V: PR: Audition, graduate standing or senior standing, and C.I. Study of jazz bass literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different. *Fall, Spring.*

MVJ 5359C CAH-MUSIC 2(1,1)
Jazz Drum Set V: PR: Audition, graduate standing or senior standing, and C.I. Study of jazz drum set literature, styles, and techniques. May be used in the degree program a maximum of 3 times only when course content is different. *Fall, Spring.* M&S fee \$35.00

MVK 1111 CAH-MUSIC 1(0,2)
Class Piano I: Class instruction for beginning piano students. Not open to music majors whose major performing medium is piano. *Fall, Spring.*

MVK 1112 CAH-MUSIC 1(0,2)
Class Piano II: PR: MVK 1111 with grade of "C" (2.0) or better or C.I. Continuation of MVK 1111. Music majors only; not open to music majors whose major performing medium is piano. *Fall, Spring.*

MVK 1211 CAH-MUSIC 1(0,1)
Secondary Piano: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in piano. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVK 1411 CAH-MUSIC 2(1,1)
Piano I: PR: Major in music or consent of chairperson; audition. May be repeated for credit. *Fall, Spring.*

MVK 2121 CAH-MUSIC 1(0,2)
Class Piano III: PR: MVK 1112 with grade of "C" (2.0) or better or C.I. Continuation of MVK 1112. Music majors only; not open to music majors whose major instrument is piano. *Fall, Spring.*

MVK 2122 CAH-MUSIC 1(0,2)
Class Piano IV: PR: MVK 2121 with grade of "C" (2.0) or better or C.I. Continuation of MVK 2121. Music majors only; not open to music majors whose major instrument is piano. *Fall, Spring.*

MVK 2421 CAH-MUSIC 2(1,1)
Piano II: PR: MVK 1411 and competence determined by faculty jury. Continuation of MVK 1411. May be repeated for credit. *Fall, Spring.*

UCF Courses and Descriptions

MVK 3431 CAH-MUSIC 2-3(1,1)
Piano III: PR: MVK 2421 and competence determined by faculty jury. Continued study of performance skills of the piano, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVK 4441 CAH-MUSIC 4(1,1)
Piano IV: PR: MVK 3431 and competence determined by faculty jury. Intensive advanced performance study of the piano, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVK 4640 CAH-MUSIC 2(2,0)
Piano Pedagogy I: PR: MVK 1411 or C.I. Methods, materials for teaching individuals and classes of children and adults beginning to intermediate levels; demonstration and observation of procedures. May be used in the degree program a maximum of 2 times. *Even Fall.*

MVK 5451 CAH-MUSIC 2(1,0)
Piano V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVK 5650 CAH-MUSIC 2(2,0)
Piano Pedagogy: PR: Graduate standing in Music or C.I. Techniques, methods, and experiences of former and current pedagogues to equip students for current or future piano teaching. *Even Spring.*

MVO 5250 CAH-MUSIC 1(1,0)
Advanced Secondary Instruction: PR: Graduate status or senior standing, and C.I. Advanced instructional techniques on a secondary instrument or in voice. May be repeated for credit. *Occasional.*

MVP 1211 CAH-MUSIC 1(0,1)
Secondary Percussion: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in percussion. Intended for non-music majors. May be repeated for credit. *Occasional.* M&S fee \$35.00

MVP 1411 CAH-MUSIC 2(1,1)
Percussion I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.* M&S fee \$35.00

MVP 2421 CAH-MUSIC 2(1,1)
Percussion II: PR: MVP 1411 and competence determined by faculty jury. Continuation of MVP 1411. May be repeated for credit. *Fall, Spring.* M&S fee \$35.00

MVP 3431 CAH-MUSIC 2-3(1,1)
Percussion III: PR: MVP 2421 and competence determined by faculty jury. Continued study of performance skills of percussion, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.* M&S fee \$35.00

MVP 3630 CAH-MUSIC 2(2,0)
Percussion Pedagogy: PR: Music major, C.I. Teaching methods and materials for percussion students and groups. *Fall, Spring.*

MVP 4441 CAH-MUSIC 4(1,1)
Percussion IV: PR: MVP 3431 and competence determined by faculty jury. Intensive advanced performance study of percussion for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.* M&S fee \$35.00

MVP 5451 CAH-MUSIC 2(1,0)
Percussion V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.* M&S fee \$35.00

MVS 1211 CAH-MUSIC 1(0,1)
Secondary Violin: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in violin. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVS 1212 CAH-MUSIC 1(0,1)
Secondary Viola: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in viola. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVS 1213 CAH-MUSIC 1(0,1)
Secondary Cello: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in cello. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVS 1214 CAH-MUSIC 1(0,1)
Secondary Bass: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in bass. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVS 1216 CAH-MUSIC 1(0,1)
Secondary Guitar: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in guitar. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVS 1411 CAH-MUSIC 2(1,1)
Violin I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 1412 CAH-MUSIC 2(1,1)
Viola I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 1413 CAH-MUSIC 2(1,1)
Cello I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 1414 CAH-MUSIC 2(1,1)
Bass I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 1415 CAH-MUSIC 2(1,1)
Harp I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 1416 CAH-MUSIC 2(1,1)
Guitar I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVS 2421 CAH-MUSIC 2(1,1)
Violin II: PR: MVS 1411 and competence determined by faculty jury. Continuation of MVS 1411. May be repeated for credit. *Fall, Spring.*

MVS 2422 CAH-MUSIC 2(1,1)
Viola II: PR: MVS 1412 and competence determined by faculty jury. Continuation of MVS 1412. May be repeated for credit. *Fall, Spring.*

MVS 2423 CAH-MUSIC 2(1,1)
Cello II: PR: MVS 1413 and competence determined by faculty jury. Continuation of MVS 1413. May be repeated for credit. *Fall, Spring.*

MVS 2424 CAH-MUSIC 2(1,1)
Bass II: PR: MVS 1414 and competence determined by faculty jury. Continuation of MVS 1414. May be repeated for credit. *Fall, Spring.*

MVS 2425 CAH-MUSIC 2(1,1)
Harp II: PR: MVS 1415 and competence determined by faculty jury. Continuation of MVS 1415. May be repeated for credit. *Fall, Spring.*

MVS 2426 CAH-MUSIC 2(1,1)
Guitar II: PR: MVS 1416 and competence determined by faculty jury. Continuation of MVS 1416. May be repeated for credit. *Fall, Spring.*

MVS 3431 CAH-MUSIC 2-3(1,1)
Violin III: PR: MVS 2421 and competence determined by faculty jury. Continued study of performance skills of the violin, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 3432 CAH-MUSIC 2-3(1,1)
Viola III: PR: MVS 2422 and competence determined by faculty jury. Continued study of performance skills of the viola, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 3433 CAH-MUSIC 2-3(1,1)
Cello III: PR: MVS 2423 and competence determined by faculty jury. Continued study of performance skills of the cello, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 3434 CAH-MUSIC 2-3(1,1)
Bass III: PR: MVS 2424 and competence determined by faculty jury. Continued study of performance skills of the string bass, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 3435 CAH-MUSIC 2-3(1,1)
Harp III: PR: MVS 2425 and competence determined by faculty jury. Continued study of performance skills of the harp, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 3436 CAH-MUSIC 2-3(1,1)
Guitar III: PR: MVS 2426 and competence determined by faculty jury. Continued study of performance skills of the guitar, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4346 CAH-MUSIC 4(1,1)
Guitar IV: PR: MVS 3436 and competence determined by faculty jury. Intensive advanced performance study of the guitar, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4441 CAH-MUSIC 4(1,1)
Violin IV: PR: MVS 3431 and competence determined by faculty jury. Intensive advanced performance study of the violin, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4442 CAH-MUSIC 4(1,1)
Viola IV: PR: MVS 3432 and competence determined by faculty jury. Intensive advanced performance study of the viola, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4443 CAH-MUSIC 4(1,1)
Cello IV: PR: MVS 3433 and competence determined by faculty jury. Intensive advanced performance study of the cello, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4444 CAH-MUSIC 4(1,1)
Bass IV: PR: MVS 3434 and competence determined by faculty jury. Intensive advanced performance study of the string bass, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 4445 CAH-MUSIC 4(1,1)
Harp IV: PR: MVS 3435 and competence determined by faculty jury. Intensive advanced performance study of the harp, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVS 5451 CAH-MUSIC 2(1,0)
Violin V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVS 5452 CAH-MUSIC 2(1,0)
Viola V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVS 5453 CAH-MUSIC 2(1,0)
Cello V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVS 5454 CAH-MUSIC 2(1,0)
Bass V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVS 5455 CAH-MUSIC 2(1,0)
Harp V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVS 5456 CAH-MUSIC 2(1,0)
Guitar V: PR: Graduate status or senior standing and C.I. May be used in the degree program a maximum of 4 times. *Fall, Spring.*

UCF Courses and Descriptions

MVV 1411 CAH-MUSIC 2(1,1)
Voice I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVV 1873 CAH-MUSIC 1(0,1)
Secondary Voice: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in voice. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 2421 CAH-MUSIC 2(1,1)
Voice II: PR: MVV 1411 and competence determined by faculty jury. CR: MUS 1250. Continuation of MVV 1411. Major in music or consent of chair; audition. Private and class lessons. May be repeated for credit 2 times. *Fall, Spring.*

MVV 3431 CAH-MUSIC 2-3(1,1)
Voice III: PR: MVV 2421 and competence determined by faculty jury. Continued study of performance skills of the voice, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4441 CAH-MUSIC 4(1,1)
Voice IV: PR: MVV 3431 and competence determined by faculty jury. Intensive advanced performance study of the voice, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4640 CAH-MUSIC 2(2,0)
Voice Pedagogy: PR: C.I. Vocal function, anatomy, and pedagogical methodology as applied to the voice teacher and performer. *Odd Spring.*

MVV 5451 CAH-MUSIC 2(1,0)
Voice V: PR: Graduate standing or senior standing and C.I. May be used in the degree program a maximum of 4 times. *Fall, Spring.*

MVV 5651 CAH-MUSIC 2(3,0)
Voice Pedagogy: PR: Graduate standing in Music or C.I. Vocal function, anatomy, and pedagogical methodology with application to the voice teacher and performer. *Odd Spring.*

MVV 1211 CAH-MUSIC 1(0,1)
Secondary Flute: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in flute. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 1212 CAH-MUSIC 1(0,1)
Secondary Oboe: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in oboe. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 1213 CAH-MUSIC 1(0,1)
Secondary Clarinet: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in clarinet. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 1214 CAH-MUSIC 1(0,1)
Secondary Bassoon: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in bassoon. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 1215 CAH-MUSIC 1(0,1)
Secondary Saxophone: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in saxophone. Intended for non-music majors. May be repeated for credit. *Fall, Spring.*

MVV 1411 CAH-MUSIC 2(1,1)
Flute I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVV 1412 CAH-MUSIC 2(1,1)
Oboe I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVV 1413 CAH-MUSIC 2(1,1)
Clarinet I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVV 1414 CAH-MUSIC 2(1,1)
Bassoon I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.* M&S fee \$20.00

MVV 1415 CAH-MUSIC 2(1,1)
Saxophone I: PR: Major in music or consent of chair; audition. May be repeated for credit. *Fall, Spring.*

MVV 2421 CAH-MUSIC 2(1,1)
Flute II: PR: MVV 1411 and competence determined by faculty jury. Continuation of MVV 1411. May be repeated for credit. *Fall, Spring.*

MVV 2422 CAH-MUSIC 2(1,1)
Oboe II: PR: MVV 1412 and competence determined by faculty jury. Continuation of MVV 1412. May be repeated for credit. *Fall, Spring.*

MVV 2423 CAH-MUSIC 2(1,1)
Clarinet II: PR: MVV 1413 and competence determined by faculty jury. Continuation of MVV 1413. May be repeated for credit. *Fall, Spring.*

MVV 2424 CAH-MUSIC 2(1,1)
Bassoon II: PR: MVV 1414 and competence determined by faculty jury. Continuation of MVV 1414. May be repeated for credit. *Fall, Spring.* M&S fee \$20.00

MVV 2425 CAH-MUSIC 2(1,1)
Saxophone II: PR: MVV 1415 and competence determined by faculty jury. Continuation of MVV 1415. May be repeated for credit. *Fall, Spring.*

MVV 3431 CAH-MUSIC 2-3(1,1)
Flute III: PR: MVV 2421 and competence determined by faculty jury. Continued study of performance skills of the flute, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 3432 CAH-MUSIC 2-3(1,1)
Oboe III: PR: MVV 2422 and competence determined by faculty jury. Continued study of performance skills of the oboe, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 3433 CAH-MUSIC 2-3(1,1)
Clarinet III: PR: MVV 2423 and competence determined by faculty jury. Continued study of performance skills of the clarinet, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 3434 CAH-MUSIC 2-3(1,1)
Bassoon III: PR: MVV 2424 and competence determined by faculty jury. Continued study of performance skills of the bassoon, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 3435 CAH-MUSIC 2-3(1,1)
Saxophone III: PR: MVV 2425 and competence determined by faculty jury. Continued study of performance skills of the saxophone, with additional intensive work expected for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4441 CAH-MUSIC 4(1,1)
Flute IV: PR: MVV 3431 and competence determined by faculty jury. Intensive advanced performance study of the flute, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4442 CAH-MUSIC 4(1,1)
Oboe IV: PR: MVV 3432 and competence determined by faculty jury. Intensive advanced performance study of the oboe, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4443 CAH-MUSIC 4(1,1)
Clarinet IV: PR: MVV 3433 and competence determined by faculty jury. Intensive performance study of the clarinet, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4444 CAH-MUSIC 4(1,1)
Bassoon IV: PR: MVV 3434 and competence determined by faculty jury. Intensive advanced performance study of the bassoon, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 4445 CAH-MUSIC 4(1,1)
Saxophone IV: PR: MVV 3435 and competence determined by faculty jury. Intensive advanced performance study of the saxophone, for performance majors. May be used in the degree program a maximum of 3 times. *Fall, Spring.*

MVV 5451 CAH-MUSIC 2(1,0)
Flute V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVV 5452 CAH-MUSIC 2(1,0)
Oboe V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVV 5453 CAH-MUSIC 2(1,0)
Clarinet V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVV 5454 CAH-MUSIC 2(1,0)
Bassoon V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

MVV 5455 CAH-MUSIC 2(1,0)
Saxophone V: PR: Graduate status or senior standing and C.I. May be repeated for credit. *Fall, Spring.*

NGR 5003 CON-NURS 2(2,0)
Advanced Health Assessment and Diagnostic Reasoning: PR: or CR: NGR 5141; CR: NGR 5003L. Admission to the M.S. in Nursing or Doctor of Nursing Practice program tracks or C.I. Concepts and skills of advanced health assessment over the lifespan. Application of the diagnostic reasoning process through differential diagnoses. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

NGR 5003L CON-NURS 1(0,1)
Advanced Health Assessment and Diagnostic Reasoning (Lab): PR: or CR: NGR 5141; CR: NGR 5003. Admission to the M.S. in Nursing or Doctor of Nursing Practice tracks or C.I. Application of concepts and skills for advanced health assessment and diagnostic reasoning over the lifespan Graded S/U. May be used in the degree program a maximum of 2 times. *Fall, Spring.* M&S fee \$45.00

NGR 5090 CON-NURS 3(3,0)
Urgent Care for the Advanced Practice Nurse: PR: NGR 6240 or C.I. Advanced practice evaluation and management of clients in urgent care settings. *Occasional.*

NGR 5141 CON-NURS 3(3,0)
Pathophysiological Bases for Advanced Nursing Practice: PR: Admission to M.S. in Nursing or Doctor of Nursing Practice program or C.I. Critical examination of the physiological and pathophysiological mechanisms affecting individuals. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

NGR 5190 CON-NURS 3(3,0)
Core Clinical Concepts for Nurse Educators: PR: Admission to the Graduate Nursing Program or C.I.; NGR 5141 or equivalent. Integrate concepts of Pharmacology and Health Assessment. Provides the foundation for Advanced Nursing Practice within the Nurse Educator role. *Fall, Spring.*

NGR 5638 CON-NURS 3(3,0)
Health Promotion: PR: Admission to M. S. in Nursing or Doctor of Nursing Practice or C.I. Exploration and analysis of concepts, theories, research evidence, clinical assessment and interventions for health promotion and wellness. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

NGR 5660 CON-NURS 3(3,0)
Health Disparities: Issues and Strategies: PR: Graduate standing. Explores disparities in access, utilization, services, outcomes, and status for different U.S. populations: data, research, programmatic issues, and strategies to close the gaps. May be used in the degree program a maximum of 2 times. *Occasional.*

NGR 5690 CON-NURS 3(3,0)
Interdisciplinary Care at End-of-Life: PR: Graduate status or C.I. Examination of interdisciplinary roles and strategies for enabling patients, families; and caregivers to approach end-of-life free from avoidable distress and suffering. May be used in the degree program a maximum of 2 times. *Fall*.

NGR 5720 CON-NURS 3(3,0)
Organizational Dynamics: PR: Baccalaureate degree in Nursing or C.I. Analysis of organizational theories related to health care organizations and the use of leadership, communication and power to influence health care delivery and policy. May be used in the degree program a maximum of 2 times. *Fall*.

NGR 5800 CON-NURS 3(3,0)
Theory for Advanced Practice Nursing: PR: Baccalaureate degree in Nursing or C.I. Conceptual and theoretical bases of nursing practice and research with emphasis on scholarly writing and critique. May be used in the degree program a maximum of 2 times. *Fall, Spring*.

NGR 5871 CON-NURS 3(3,0)
Health Care Informatics: PR: Baccalaureate in health related field or C.I. Use of information systems, clinical data management, communication strategies, and decision-making models. May be used in the degree program a maximum of 2 times. *Fall*.

NGR 5884 CON-NURS 3(3,0)
Legal and Professional Behavior in Advanced Practice Nursing: PR: Graduate standing and admission to the M.S. in Nursing or Doctor of Nursing Practice program. Examination of legal, ethical, cultural, and political issues related to professional advanced practice nursing. May be used in the degree program a maximum of 2 times. *Fall, Spring*.

NGR 5894C CON-NURS 3(2,1)
International Perspectives of Global Health: PR: Graduate standing or C.I. An analysis of global health in comparison with that of USA and other nation's health care systems. *Occasional*.

NSP 1800 CON-NURS 3(3,0)
Nursing as a Profession: Professional nursing roles in contemporary society covering a range of topics using discourse methodology that forms a foundation for nursing and health care. *Fall, Spring*.

NSP 4335 CON-NURS 3(3,0)
Nursing Care of the High-Risk Newborn: PR: Admission to BSN program; successful completion of NUR 3445 & NUR 3445L, or C.I. for RN-BSN students. In depth study of pathophysiology, management and nursing care of high risk newborn, emphasizing care of the neonate and factors contributing to outcomes related to morbidity and mortality. *Occasional*.

NSP 4425 CON-NURS 3(3,0)
Women's Health Issues: PR: Junior standing or C.I. Factors and conditions impacting the health of women. May be repeated for credit. *Occasional*.

NSP 4495 CON-NURS 3(3,0)
Emergency Department Nursing: PR: Completion of both the pharmacology and pathophysiology components of the student's current nursing program curriculum, and NUR 3225 or RN License/Eligibility or C.I. An overview of Emergency Department Nursing. Topics include scopes of practice, laws, economics, nursing care and management of emergent physiologic conditions in the emergency department setting. *Occasional*.

NSP 4550 CON-NURS 3(3,0)
Family and Interpersonal Violence: Perspectives for Nurses: PR: Admission to a BSN program or C.I. Family and interpersonal violence education to increase effective nursing responses including: history, categories, cycles, laws, intervention, nursing resources, protocols and resources. *Occasional*.

NSP 4685 CON-NURS 3(3,0)
Death & Dying: Nursing Considerations: PR: Admission to BSN Program or C.I. An in-depth look at issues encountered in nursing practice related to the process of death, dying, and end of life. *Occasional*.

NSP 4695 CON-NURS 3(3,0)
Forensic Nursing Principles and Practice: PR: Admission to BSN program or C.I. Forensic Nursing principles and practices applied to a variety of settings; an examination of the scope of practice of forensic nursing. *Occasional*.

NUR 3028 CON-NURS 3(3,0)
Essentials of Nursing Practice: PR: Admission to BSN program. CR: NUR 3028L; NUR 3065 and NUR 3065L. Apply nursing process and core scientific principles to technical psychomotor nursing skills. Integrate evidence-based principles and nursing process to clients in long-term care. *Fall, Spring*.

NUR 3028L CON-NURS 1(0,2)
Essentials of Nursing Practice Lab: PR: Admission to BSN program. CR: NUR 3028; NUR 3065 and NUR 3065L. Lab to learn and apply scientific and evidence-based principles as they relate to technical psychomotor nursing skills. Graded S/U. *Fall, Spring*. M&S fee \$30.00

NUR 3065 CON-NURS 2(2,0)
Health Assessment: PR: or CR: NUR 3065L and Admission to BSN program, or C.I. Concepts of health assessment of clients. *Fall, Spring*.

NUR 3065L CON-NURS 1(0,1)
Health Assessment Lab: CR: NUR 3065 and Admission to BSN program, or C.I. Clinical application of concepts and techniques of health assessment of clients *Fall, Spring*. M&S fee \$16.00

NUR 3125 CON-NURS 3(3,0)
Pathophysiology for Nursing Practice: PR: Admission to BSN program. Concepts and nursing care applications of the pathophysiological basis of illness. *Fall, Spring*.

NUR 3145 CON-NURS 3(3,0)
Pharmacology for Nursing Practice: PR: Admission to BSN program. CR: NUR 3225 and NUR 3225L. Principles of pharmacology and application to nursing practice. *Fall, Spring*.

NUR 3165 CON-NURS 3(3,0)
Nursing Research: PR: Admission to BSN program and successful completion of first semester or C.I. Nursing research as a basis for nursing practice. Selected experiences in reviewing, analyzing, and interpreting nursing research for nursing practice. *Fall, Spring*.

NUR 3165H CON-NURS 3(3,0)
Honors Nursing Research: PR: Permission of honors; Admission to BSN program and successful completion of first semester or C.I. Nursing research as a basis for nursing practice. Selected experiences in reviewing, analyzing, and interpreting research for nursing practice. With Honors content. *Occasional*.

NUR 3167 CON-NURS 1(2,0)
Accelerated Nursing Research Seminar: PR: Admission to BSN program; previous undergraduate or graduate research course with approval from the CON; or C.I. Accelerated study of systematic approaches to problematic situations in nursing. Selected experiences in investigating, analyzing, and interpreting nursing research and nursing issues. *Spring*.

NUR 3225 CON-NURS 3(3,0)
Nursing Care of the Adult I: PR: Admission to BSN program, successful completion of the first semester in the nursing curriculum, and concurrent enrollment in NUR 3225L; NUR 3145; NUR 3445; NUR 3445L. Integrate biopsychosocial models of nursing practice for individuals and families experiencing health risks, short-term illness or chronic health problems. *Fall, Spring*.

NUR 3225L CON-NURS 2(0,6)
Nursing Care of the Adult I: Clinical Practice: PR: Admission to BSN program; successful completion of all courses in the first semester of the nursing curriculum, and concurrent enrollment in NUR 3225; NUR 3445; NUR 3445L. Clinical experience applying biopsychosocial models of nursing practice for clients experiencing health risks, short-term illness, or chronic health problems. Graded S/U. *Fall, Spring*. M&S fee \$40.00

NUR 3445 CON-NURS 4(4,0)
Nursing Care of Families: PR: Admission to BSN program, successful completion of the first semester in the nursing curriculum, and concurrent enrollment in NUR 3225 NUR 3225L; NUR 3145; NUR 3445L. Concepts of family nursing as they relate to health promotion, maintenance and illness management for childbearing and childbearing families. *Fall, Spring*.

NUR 3445L CON-NURS 2(0,6)
Nursing Care of Families Clinical: PR: Admission to BSN program, successful completion of the first semester in the nursing curriculum, and concurrent enrollment in NUR 3225; NUR 3225L; NUR 3145; NUR 3445. Nursing practice to address health promotion, maintenance and illness management needs of childbearing and childbearing families. Graded S/U. *Fall*. M&S fee \$20.00

NUR 3616 CON-NURS 2(2,0)
Health Promotion Across the Lifespan: PR: Admission to BSN program and CR: NUR 3616L. The concepts of health promotion and prevention for individuals and families living in the community across the lifespan. *Fall, Spring*.

NUR 3616L CON-NURS 1(1,0)
Health Promotion Across the Lifespan Clinical: PR: Admission to BSN program and CR: NUR 3616. Clinical concepts of community health nursing focusing on community as client and levels of prevention across the lifespan. *Fall, Spring*.

NUR 3634 CON-NURS 3(3,0)
Community Health Nursing: PR: Admission to BSN program. CR: NUR 3634L. Concepts of community health nursing focusing on community as client and levels of prevention across the lifespan. *Occasional*.

NUR 3634L CON-NURS 2(0,6)
Community Health Nursing Clinical: PR: Admission to BSN program. CR: NUR 3634. Clinical concepts of community health nursing focusing on community as client, and levels of prevention across the lifespan. Graded S/U. *Occasional*. M&S fee \$55.00

NUR 3755L CON-NURS 2(0,6)
Essentials of Nursing Practice Clinical: PR: Admission to BSN Program. CR: NUR 3028 and NUR 3028L; NUR 3065 and NUR 3065L. Application of the nursing process, scientific and evidence-based principles in the nursing care of clients in long-term care. Graded S/U. *Fall, Spring*. M&S fee \$20.00

NUR 3795 CON-NURS 3(3,0)
Principles of Oncology Nursing: PR: Admission to BSN program or C.I. Basic principles and concepts in oncology. Focus on cancer as it affects individuals and families. Emphasis on cancer treatment, symptoms management and psychosocial response. *Occasional*.

NUR 3805 CON-NURS 3(3,0)
Dimensions of Professional Nursing Practice: PR: Admission to BSN program or C.I. Theoretical bases of professional nursing practice for RN to BSN students. *Fall, Spring*.

NUR 3806 CON-NURS 1(1,0)
Professional Socialization Seminar: PR: Admission to BSN program or C.I. Application of library utilization and professional writing skills, critical thinking and stress management principles to the beginning role of the professional nurse. *Fall, Spring*.

NUR 3816 CON-NURS 1(1,0)
Professional Nurse Seminar: PR: Admission to the BSN program. CR: NUR 3225. The role and function of the professional nurse including professional standards, ethics, and legal and practice issues. *Fall, Spring*.

NUR 3825 CON-NURS 2(2,0)
The Role of the Professional Nurse: PR: Admission to BSN program. Examination of the role and function of the professional nurse, including professional standards, legal and practice issues. *Occasional*.

NUR 3825H CON-NURS 2(2,0)
Honors The Role of the Professional Nurse: PR: Admission to BSN program. Permission of honors. Role and function of the professional nurse, including professional standards, legal, and practice issues with honors content. *Occasional*.

UCF Courses and Descriptions

NUR 3826 CON-NURS 3(3,0)
Bioethics in Nursing: PR: PSY 2012, SYG 2000, or PHI 2010, or C.I. An examination of human values and bioethical questions arising in health care as they relate to nursing. *Occasional.*

NUR 3826H CON-NURS 3(3,0)
Honors Bioethical and Legal Issues in Health Care: PR: Permission of Honors. Includes questions concerning human values, legal and ethical questions arising in health care delivery policy issues and professional practice among licensed health care professionals. *Occasional.*

NUR 3936 CON-NURS 3(2,2)
International Perspectives of Nursing and Health Care: PR: Admission to BSN program or C.I. Comparative analysis of professional nursing practice and health care systems in the United States and selected countries. May be repeated for credit. *Occasional.*

NUR 4177 CON-NURS 3(3,0)
Holistic Nursing: PR: Admission to BSN program or C.I. Explore lived experience of health-wellness, illness-disease focusing on mind-body-spirit, transpersonal healing and complementary interventions to maximize nursing care outcomes. *Occasional.*

NUR 4178 CON-NURS 3(3,0)
Complementary Therapies: Options for Integrative Nursing Practice: PR: Junior or senior undergraduate standing in nursing, or C.I. History, principles, techniques, outcomes, and research of complementary and integrative health. Concepts of wellness, healing and integrative practice from nursing and consumer perspectives. *Occasional.*

NUR 4197 CON-NURS 3(3,0)
Genetics and Genomics in Nursing Practice: PR: Admission to BSN program or C.I. The application of genetics and genomic principles to clinical nursing practice. *Occasional.*

NUR 4227 CON-NURS 4(4,0)
Nursing Care of the Adult II: PR: Admission to the BSN program, successful completion of the first two semesters in the nursing curriculum. CR: NUR 4227L, or C.I. Nursing care of clients and their families experiencing acute, unstable, or life-threatening health problems. *Fall/Spring.*

NUR 4227L CON-NURS 3(0,3)
Nursing Care of the Adult II: Clinical Practice: PR: Admission to BSN program; successful completion of the first three semesters in the nursing curriculum. CR: NUR 4227, or C.I. Clinical practice in acute health care settings with clients experiencing acute, unstable, surgical, or life-threatening health conditions. Graded S/U. *Fall/Spring.*

NUR 4257 CON-NURS 3(3,0)
Introduction to Critical Care Nursing: PR: Admission to BSN program and successful completion of NUR 4227 and NUR 4227L or C.I. Theories and principles of comprehensive nursing care of individuals and families in critical care settings. *Fall/Spring.*

NUR 4286 CON-NURS 3(3,0)
Gerontologic Nursing: PR: Admission to BSN program or C.I. Theories and principles related to the promotion, maintenance, and restoration of health in older adults in various settings. *Occasional.*

NUR 4340 CON-NURS 3(3,0)
Obesity in Children and Adolescents: Nursing Management: PR: Admission to BSN program or C.I. Examines multiple factors that predispose children and adolescents to obesity; explores nursing management and public health and policy strategies for prevention and treatment. *Occasional.*

NUR 4493 CON-NURS 3(3,0)
Perinatal Loss and Grief: Nursing Interventions: PR: Admission to BSN Program or C.I. Nursing interventions for individuals and families experiencing perinatal loss and grief. *Occasional.*

NUR 4516 CON-NURS 3(3,0)
Crisis Intervention: PR: Completion of PSY 2012, SYG 2000 or ANT 2000. Crisis theory and techniques; recognition and intervention in crisis events. Applicable to all areas of nursing and all helping professions. *Occasional.*

NUR 4535 CON-NURS 3(3,0)
Psychiatric Mental Health Nursing: PR: Admission to BSN program. CR: NUR 4535L. Nursing in the promotion of mental health and the prevention, treatment, and rehabilitation of mental illness. *Fall/Spring.*

NUR 4535L CON-NURS 2(0,6)
Psychiatric Mental Health Clinical: PR: Admission to BSN program. CR: NUR 4535. Clinical Application of Nursing interventions in the promotion of mental health and the prevention, treatment and rehabilitation of mental illness. Graded S/U. *Fall/Spring.*

NUR 4604L CON-NURS 4(0,12)
Practicum in Community and Public Health Nursing for RNs: PR: Admission to BSN program. Synthesis of theories and concepts incorporated throughout the curriculum, applied in the community health and public health nursing setting, and directed toward professional role development. Graded S/U. *Fall/Spring.*

NUR 4637 CON-NURS 3(3,0)
Public and Community Health Nursing: PR: Admission to the BSN program. Concepts of public health nursing focusing on population-based health care delivery systems. *Fall/Spring.*

NUR 4637L CON-NURS 1(0,3)
Public Health Nursing Clinical: PR: Admission to the BSN program. CR: NUR 4637. Clinical Course to apply concepts of public health nursing. Students will apply findings of community assessment completed in NUR 4637 Public Health Nursing. Graded S/U. *Fall/Spring.*

NUR 4675 CON-NURS 3(3,0)
Issues in Rural Health Care: PR: Admission to BSN program or C.I. The rural environment and appropriate health care services and programs for rural populations. *Occasional.*

NUR 4760 CON-NURS 3(3,0)
Principles of Pain Management: PR: Admission to BSN program or C.I. Principles of pain and pain management across the lifespan from neonates to the elderly, including practices across healthcare settings, from acute care to home care. *Occasional.*

NUR 4765 CON-NURS 3(3,0)
Rehabilitation Nursing: Principles and Practice: PR: Admission to BSN program or C.I. Rehabilitation principles are the practices that may be incorporated into any healthcare setting and applied to clients of all age groups. *Occasional.*

NUR 4828 CON-NURS 3(3,0)
Nursing Leadership, Management and Role Transition: PR: Admission to BSN program or C.I. Professional development and role transition of baccalaureate graduates entering professional nursing practice focusing on principles of leadership and management applied to health care settings. *Fall/Spring.*

NUR 4828H CON-NURS 3(3,0)
Honors Leadership, Management and Role Transition: PR: Admission to the BSN program; admission to the Honors or Honors in the major program or C.I. Application of leadership and management principles to the beginning role of the professional nurse with honors content. *Spring.*

NUR 4829 CON-NURS 3(3,0)
Accelerated Transitioning into Professional Practice as a Leader: PR: Admission to BSN program. CR: NUR 4945L or C.I. Application of leadership and management principles to the beginning role of the professional nurse. *Occasional.*

NUR 4837 CON-NURS 3(3,0)
Health Care Issues, Policy, and Economics: PR: Admission to BSN program or C.I. Study of selected health care policy issues relevant to the financing, organization, and delivery of nursing services to populations in the community *Fall/Spring.*

NUR 4837H CON-NURS 3(3,0)
Honors Health Care Issues, Policy, and Economics: PR: Permission of Honors; Admission to BSN program; or C.I. Study of selected health care policy issues relevant to the financing, organization, and delivery of nursing services to populations in the community with honors content. *Occasional.*

NUR 4906 CON-NURS VAR(VAR,VAR)
Independent Study: Directed Study. Graded S/U or Letter grade. May be repeated for credit. *Occasional.*

NUR 4907H CON-NURS 3(3,0)
Honors Directed Reading/Research: PR: Permission of Honors and admission to major. The student will review and synthesize literature on a selected topic in preparation for the Honors Thesis or Project. Graded S/U or Letter grade. *Occasional.*

NUR 4942L CON-NURS 3(0,3)
Nursing Practicum for International Students: PR: C.I. In-depth study of clinical nursing practice for international students. Graded S/U. May be used in the degree program a maximum of 2 times. *Occasional.*

NUR 4945L CON-NURS 4(0,4)
Nursing Practicum: PR: Admission to the BSN program and successful completion of all previous clinical courses on plan of study; or C.I. Designed to enhance student's knowledge and expertise in an area of nursing practice chosen by the student and school of nursing faculty. Graded S/U. *Spring.*

NUR 4971H CON-NURS 1-3(1-3,0)
Honors Thesis or Project Works: PR: Permission of Honors. Faculty mentoring through the process of writing and defending the Honors Thesis or Project. May be taken the second time for 1-3 credit hours. May be used in the degree program a maximum of 2 times. *Occasional.*

OCE 3008 COS-BIOL 3(3,0)
Oceanography: PR: CHM 2045C and CHM 2046, and a "C" (2.0) or better in BSC 2010C. Biological, physical and chemical oceanography. *Occasional.*

OSE 3052 OPT-OPT 3(3,1)
Introduction to Photonics: PR: MAP 2302. Introduction to wave and photon models of light. Interference and diffraction. Polarization. Image formation. LEDs and lasers. Detectors. *Fall.*

OSE 3052L OPT-OPT 1(0,3)
Introduction to Photonics Laboratory: PR: MAP 2302, CR: OSE 3052. Laboratory experiments introducing geometrical and physical optics. Image formation. Fiber transmission. Laser beams. Interferometers. Optical systems (cameras, scanners, sensors). Polarization devices. *Fall.* M&S fee \$15.00

OSE 3053 OPT-OPT 3(3,0)
Electromagnetic Waves for Photonics: CR: OSE 3052. Electromagnetic theory of light. Fresnel reflection and refraction. Polarization and crystal optics. Metallic and dielectric waveguides. *Spring.*

OSE 3200 OPT-OPT 3(3,0)
Geometric Optics: CR: MAP 2302. Fundamentals of geometrical optics. Geometrical theory of image formation. Chromatic and monochromatic aberrations. Optical systems. *Fall/Spring.*

OSE 3490 OPT-OPT 3(3,0)
Nanophotonics: PR: PHY 2049C or C.I. Optical/photon processes on nano scale and interactions with elements of physics & engineering. *Occasional.*

OSE 4240 OPT-OPT 3(3,0)
Optics & Photonics Design: PR: OSE 3200 and OSE 3052. Analysis and design of optical and photonic systems. Assessment of image quality using optical design software. Simulation of integrated-optic systems using photonic design software. *Spring.*

OSE 4410 OPT-OPT 3(3,0)
Optoelectronics: PR: EEE 3307C, OSE 3052. Introduction to the principles and design of semiconductor optoelectronic devices including photodiodes, solar cells, light-emitting diodes, laser diodes, and CCDs. Applications include photovoltaics, displays, imaging. *Spring.*

OSE 4410L OPT-OPT 1(0,3)
Optoelectronics Laboratory: CR: OSE 4410. Experiments in the basics of semiconductor optoelectronic devices including photodiodes, light-emitting diodes, laser diodes, CCDs. Applications include solar cells, displays, photodetection, and optical communications. *Spring.* M&S fee \$18.00

OSE 4470 OPT-OPT 3(3,0)
Fiber-Optic Communications: PR: "C" (2.0) or better in EEL 3123C and PR: or CR: OSE 3052. Introduction to the principles and design of fiber-optic communication systems including the integrated-optic and optoelectronic devices used in transmitters and receivers. *Fall.*

OSE 4470L OPT-OPT 1(0,3)
Fiber-Optic Communications Laboratory: CR: OSE 4470. Laboratory experiments covering the optical fiber as a communication channel, couplers, transmitters and receivers using optoelectronic devices, multiplexing, and overall systems performance. *Fall.* M&S fee \$16.00

OSE 4520 OPT-OPT 3(3,0)
Laser Engineering: PR: OSE 3052 or PHY 4424 or EEL 4440. The photon nature of light. Absorption and spontaneous and stimulated emission of light. Fluorescence. Optical amplifiers. Optical resonators. Lasers. Pulsed lasers. Nonlinear optical wave conversion. *Spring.*

OSE 4520L OPT-OPT 1(0,3)
Laser Engineering Laboratory: CR: OSE 4520. Experiments highlighting basic laser phenomena. Absorption, spontaneous and stimulated emission. Fluorescence. Optical amplifiers. Optical resonators. Lasers. Continuous wave and pulsed lasers. Nonlinear optical wave conversion. *Spring.* M&S fee \$15.00

OSE 4720 OPT-OPT 3(3,0)
Visual Optics: PR: OSE 3052. Optics of the human eye and color vision. Optical and neural processing of spatial, temporal, and color information. Detection, discrimination, and recognition. Color science. *Spring.*

OSE 4721 OPT-OPT 3(3,0)
Biophotonics: PR: OSE 3052. This course is an introduction to photobiology (interaction of light with biological matter), tissue optics, light-induced cellular processes, optical biosensors, and cellular and molecular imaging. *Fall.*

OSE 4830 OPT-OPT 3(3,0)
Imaging and Display: PR: EEL 3123C, OSE 3052. Mathematical and physical models of two- and three-dimensional imaging systems including gazing, scanning, interferometric, tomographic, and hyperspectral systems. Applications to remote sensing, biology, and medicine. *Fall.*

OSE 4830L OPT-OPT 1(0,3)
Imaging and Display Laboratory: CR: OSE 4830. Laboratory experiments introducing imaging systems. 2D gazing and scanning systems. Interferometer metrology. Optical coherence tomography. Spectroscopy and spectral imaging. Display systems. *Fall.* M&S fee \$14.00

OSE 4930 OPT-OPT 2(2,0)
Frontiers of Optics and Photonics: PR: OSE 3052 or PHY 4424 or EEL 4440, Senior Standing. Introduction to recent advances in optics & photonics, to ethical issues, and to effective communication appropriate to the field of optics & photonics. *Fall.*

OSE 4951 OPT-OPT 3(3,0)
Senior Design I: PR: OSE 3053 and OSE 4520; CR: OSE 4410 and OSE 4470 and C.I. Development of the technical, communication, and team skills for successful design of optical and photonic systems. Preparation of project proposals for Senior Design II. *Fall.*

OSE 4952 OPT-OPT 3(3,0)
Senior Design II: PR: OSE 4951. Execution of project developed in OSE 4911, including complete project design review, prototyping, construction, testing, cost, functionality, demonstration, presentation, and reporting. Emphasis on team effort. *Spring.*

OSE 5041 OPT-OPT 3(3,0)
Introduction to Wave Optics: PR: EEL 4440 or PHY 4424 or C.I. Electromagnetic foundation of light waves as applied to reflection, diffraction, interference, polarization, coherence, and guided waves. *Occasional.*

OSE 5115 OPT-OPT 3(3,0)
Interference and Diffraction: PR: Admitted to a graduate program in Optics, Physics or Electrical Engineering, or C.I. Interference of light, optical interferometry, Fraunhofer and Fresnel scalar diffraction, diffraction gratings, temporal coherence, spatial coherence, and partial coherence. *Fall/Spring.*

OSE 5203 OPT-OPT 3(3,0)
Geometrical Optics: PR: Admitted to a graduate program in Optics, Physics or Electrical Engineering, or C.I. Fundamentals of Geometrical Optics, Geometrical Theory of Image Formation and Aberrations. *Fall/Spring.*

OSE 5312 OPT-OPT 3(3,0)
Light Matter Interaction: PR: Graduate standing or C.I. Microscopic theory of absorption, dispersion, and refraction of materials; classical and quantum mechanical description of optical properties. *Fall/Spring.*

OSE 5313 OPT-OPT 3(3,0)
Materials for Optical Systems: PR: Graduate standing or C.I. Course will review key attributes of optical materials that allow them to be used in a range of applications, devices and components in optical systems. *Occasional.*

OSE 5414 OPT-OPT 3(3,0)
Fundamentals of Optoelectronic Devices: PR: Graduate standing or C.I. Operation, methods of fabrication, applications, and limitations of various optoelectronic devices including quantum well semiconductor devices. *Fall.*

OSE 5630C OPT-OPT 3(2,1)
Thin Film Optics: PR: PHY 4424 or EEL 4440 and OSE 5041 or OSE 5630C. Principles of thin film optics and its applications in optical, electro-optical, and laser systems. *Occasional.*

PAD 3003 HPA-PUB 3(3,0)
Public Administration in American Society: PR: "C" (2.0) or better in POS 2041; and Public Administration major or Public Administration minor or Leadership Studies minor or Performing Arts Administration minor; and Sophomore standing; or C.I. An examination of the basic environment, culture, and organization of public administration in the United States. *Fall/Spring.*

PAD 3040 HPA-PUB 3(3,0)
Ethics and Values in Public Administration: PR: Junior standing; and Public Administration major or declared Leadership Studies Certificate or declared Leadership Studies minor; or C.I. Ethical dimensions of public administration. Develops the awareness, skills, and value framework to act ethically. *Occasional.*

PAD 3330 HPA-PUB 3(3,0)
Urban and Regional Planning: PR: Junior standing; and Public Administration major, or Urban and Regional Planning minor, or Interdisciplinary Studies Environmental Studies Track major, or Environmental Studies minor; or C.I. Planning topics such as land-use, and comprehensive and urban planning as they relate to the physical aspects of the natural and human environment. *Fall/Spring.*

PAD 3733 HPA-PUB 3(3,0)
Professional Administrative Writing in the Public Sector: PR: "C" (2.0) or better in POS 2041; Sophomore standing, Public Administration major or Public Administration minor, or C.I. Professional and technical writing for the field of public administration. *Fall/Spring.*

PAD 3930 HPA-PUB 1(1,0)
Nonprofit Leadership Seminar: PR: Declared Nonprofit Management minor and Junior standing and ENC 1102. Discussion and activity based course exploring nonprofit competencies to prepare students for management and leadership positions in human services. Student Association activities included. May be used in the degree program a maximum of 3 times. *Fall/Spring.*

PAD 4034 HPA-PUB 3(3,0)
The Administration of Public Policy: PR: Junior standing, and either a Public Administration major with a "C" (2.0) or better in PAD 3003 and PAD 3733 and in all PAD common program prerequisites courses, or Public Administration minor with a "C" (2.0) or better in PAD 3003 and PAD 3733, or C.I. Problems of values, interests, and objectives and their impact on the administration of public programs, stressing the interplay between social values, policies and administration. *Fall/Spring.*

PAD 4104 HPA-PUB 3(3,0)
Administrative Theory: PR: Junior standing, and either a Public Administration major with a "C" (2.0) or better in PAD 3003 and PAD 3733 and in all PAD common program prerequisites courses, or Public Administration minor with a "C" (2.0) or better in PAD 3003 and PAD 3733, or Leadership Studies minor or certificate, or Applied Science major; or C.I. A review of the behavioral aspects of the administrative process, its impact on organizational goal achievement and on supervisory strategies. Some social and structural pathologies affecting administrative practice. *Fall/Spring.*

PAD 4131 HPA-PUB 3(3,0)
Public Sector Project Management: PR: Junior Standing. Various approaches to managing projects, including using scheduling techniques such as GANTT, CPM, and PERT, as well as team building, facilitating, and leadership skills. *Occasional.*

PAD 4144 HPA-PUB 3(3,0)
Nonprofit Organizations: PR: Junior standing and declared Nonprofit Minor or Certificate, or Performing Arts Management minor, or C.I. The operations of nonprofit organizations, including working with board of directors, volunteer services, fund-raising and grantsmanship, financial management and marketing. *Fall/Spring.*

PAD 4147 HPA-PUB 3(3,0)
Resource Development in the Nonprofit Sector: PR: Junior standing, and Public Administration major or Nonprofit Management minor or certificate, or Performing Arts Administration minor, or C.I. Examination of the development and management of human resources and financial resource development in nonprofit organizations is discussed. *Fall.*

PAD 4148 HPA-PUB 3(3,0)
Volunteer Management: PR: Junior standing, and Public Administration major or Nonprofit Management minor or certificate, or Performing Arts Administration minor, or C.I. Examination of recruitment, selection, training and management of volunteers in nonprofit organizations and the application of management theory. *Spring.*

PAD 4153 HPA-PUB 3(3,0)
Planning and Improvement for Public Organizations: PR: Junior standing and Public Administration major or Nonprofit Management minor or certificate, or C.I. Prepare future leaders for the changing paradigms of the public sector by providing education in a variety of quality related areas. *Fall.*

PAD 4204 HPA-PUB 3(3,0)
Fiscal Management: PR: Junior standing, and either a Public Administration major with a "C" (2.0) or better in PAD 3003 and PAD 3733 and in PAD common program prerequisites courses, or Public Administration minor with a "C" (2.0) or better in PAD 3003 and PAD 3733, or Nonprofit Management minor, or C.I. Analysis of methods of securing public funds, the process of budget making, and techniques of management used in managing public funds. *Fall/Spring.*

PAD 4223 HPA-PUB 3(3,0)
Public Budgeting: Skills and Techniques: PR: PAD 4204 or C.I. Analytical skills and administrative techniques employed by public budget analysis, focusing on the process of generating and using information. *Occasional.*

PAD 4253 HPA-PUB 3(3,0)
Community & Economic Development: PR: Public Administration major or Non Profit minor or Urban Regional Planning minor, and Junior standing, or C.I. This course will examine local and regional economic development strategies, with an emphasis on effective policy setting and planning. *Fall.*

PAD 4325 HPA-PUB 3(3,0)
Program Evaluation for Public and Nonprofit Organizations: PR: Junior standing and (declared nonprofit minor or declared Nonprofit certificate or Public Administration major) or C.I. To develop an understanding of program evaluation and to apply the process by developing a program evaluation for a program. *Spring.*

UCF Courses and Descriptions

PAD 4331 HPA-PUB 3(3,0)
Land Use and Planning: PR: Junior standing and Public Administration major or Urban and Regional Planning minor; or C.I. The study of land use and planning to include zoning variances, non-conformities, development agreements, subdivision controls, redevelopment and sprawl. *Fall.*

PAD 4334 HPA-PUB 3(3,0)
Urban Design: PR: Junior standing and Public Administration major or Urban and Regional Planning minor, or C.I. Theories and concepts of the physical, cultural, social and financial factors associated with urban design. *Spring.*

PAD 4351 HPA-PUB 3(3,0)
Issues in Environmental Program Management: PR: Junior standing, and Public Administration major or Urban and Regional Planning minor, or Interdisciplinary Studies Environmental Studies Track major, or Environmental Studies minor, or Energy and Sustainability minor, or C.I. The study of environmental policy making processes, programs, and problems through lectures, field study, and research projects. *Spring.*

PAD 4371 HPA-PUB 3(3,0)
Community Resiliency & Sustainability: PR: (ENC 1102 & Sophomore Standing) or C.I. Issues of community resiliency & sustainability specific to emergency & crisis management. Includes coverage of public policy & management, urban planning & development, and community sociology. *Occasional.*

PAD 4390 HPA-PUB 3(3,0)
Hazard Mitigation and Preparedness: PR: Junior standing and Public Administration major or Emergency Management and Homeland Security minor or Urban and Regional Planning minor, or C.I. Specialized knowledge and skills necessary to develop a proactive hazard mitigation plan to reduce the effects of natural and technological disasters. *Fall.*

PAD 4392 HPA-PUB 3(3,0)
Emergency Management and Homeland Security: PR: Junior standing and Public Administration major or Emergency Management and Homeland Security minor or Urban and Regional Planning minor, or C.I. After a public emergency, a variety of services must be provided to the victims. This course reviews and analyzes coordination and management of these services. *Fall.*

PAD 4395 HPA-PUB 3(3,0)
Disaster Response and Recovery: PR: Junior standing and Public Administration major or Emergency Management and Homeland Security minor or Urban and Regional Planning minor, or C.I. Individual, group, organizations and community behavior and recovery from disasters. Service delivery strategies are highlighted and complex dynamics of the recovery process are emphasized. *Spring.*

PAD 4414 HPA-PUB 3(3,0)
Human Resource Administration: PR: Either a Public Administration major with a "C" or better in PAD 3003 and PAD 3733 and in all PAD common program prerequisites courses, or Public Administration minor with a "C" (2.0) or better in PAD 3003 and PAD 3733, or Nonprofit Management minor, or C.I. The history, operating components, structural characteristics, and increasing impact of laws and related sanctions on personnel practices of public agencies. *Fall, Spring.*

PAD 4446 HPA-PUB 3(3,0)
Multiculturalism in Public Administration: PR: COHPA major or minor, and Junior standing, or C.I. This course is designed to help public managers examine public and personal attitudes and values, ethical dilemmas, and social consequences related to issues of diversity. *Occasional.*

PAD 4712 HPA-PUB 3(3,0)
Information Systems for Public Managers and Planners: PR: Junior standing and Public Administration major or Emergency Management and Homeland Security minor or Urban and Regional Planning minor, or C.I. Knowledge and skills concerning information technologies important for planners and public managers, including use of GIS to manipulate and analyze spatial data. *Spring.*

PAD 4720 HPA-PUB 3(3,0)
Survey Research in Public Administration: PR: Either a Public Administration major with a "C" (2.0) or better in PAD 3003 and PAD 3733 and in all PAD common program prerequisites courses, or Public Administration minor with a "C" (2.0) or better in PAD 3003 and PAD 3733, or C.I. Introduction to the concepts, design, methodology, computer applications, and data analysis in applied research in the public sector. *Fall, Spring.*

PAD 4803 HPA-PUB 3(3,0)
Issues in Urban Administration: PR: Junior standing and Public Administration major or Urban and Regional Planning minor, or C.I. To provide students with an understanding of public policy and administrative responses to socioeconomic problems within the urban context. *Occasional.*

PAD 4822 HPA-PUB 3(3,0)
Intergovernmental Administration: PR: Junior standing and Public Administration major or Emergency Management and Homeland Security minor or Urban and Regional Planning minor, or C.I. Various approaches to studying and explaining the American intergovernmental system. Emphasis on interorganizational activities, i.e., negotiation, cooperation, and coordination within the legal setting. *Fall.*

PAD 4941 HPA-PUB 3-12(0,3-12)
Public Administration Internship: PR: Junior Standing and permission by the internship coordinator in the Public Administration program. Internship in municipal, county, state, or federal government, including assignments in such fields as personnel, planning, budget, and fiscal, procurement, and public safety. *Fall, Spring.*

PAD 4948 HPA-PUB 3(0,20)
Nonprofit Management Internship: PR: Junior standing; and enrollment in nonprofit minor; and PR or CR: one credit hour of PAD 3930. Supervised internship for students in the Nonprofit Leadership Alliance program. Requires minimum of 300 hours placement in a nonprofit human services organization. May be used in the degree program a maximum of 2 times. *Fall, Spring.*

PAD 5041 HPA-PUB 3(3,0)
Ethics and Values in Public Administration: Examination of ethics in the public sector. Public concerns, past patterns, and individual/social aspects of ethical behavior are explored. *Occasional.*

PAD 5145 HPA-PUB 3(3,0)
Volunteerism in Nonprofit Management: PR: Admission to Master of Nonprofit Management degree, Nonprofit certificate or C.I. Volunteer development in nonprofit organizations, including board selection, development and leadership, volunteer recruitment, training, retention and theories of motivation, leadership, ethical issues. *Fall, Spring.*

PAD 5146 HPA-PUB 3(3,0)
Nonprofit Resource Development: PR: Admission to Master of Nonprofit Management, Certificate in Nonprofit Management, Certificate in Fundraising or C.I. Examines human resource development and financial resource development in nonprofit organizations including management issues. *Fall, Spring.*

PAD 5336 HPA-PUB 3(3,0)
Introduction to Urban Planning: PR: Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Issues of urbanization, regional development, land use and comprehensive planning, environmental planning, and social planning. *Fall.*

PAD 5337 HPA-PUB 3(3,0)
Urban Design: PR: Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Urban and Regional Planning, or C. I. Planning techniques such as planned unit developments, capital improvements planning, and growth management, and planning methods, including needs assessment and graphic design. *Fall.*

PAD 5338 HPA-PUB 3(3,0)
Land Use and Planning Law: PR: Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Review of national and local aspects of the legal underpinnings of urban planning aspects such as zoning, growth management, and environmental regulation. *Spring.*

PAD 5356 HPA-PUB 3(3,0)
Managing Community and Economic Development: PR: Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Overview of economic development activities focusing on policy and managerial issues at the local level. *Spring.*

PAD 5425 HPA-PUB 3(3,0)
Dispute Resolution in the Public Sector: An examination of the skills needed to resolve disputes in the public sector through facilitation, mediation, and other alternative methods. *Occasional.*

PAD 5427 HPA-PUB 3(3,0)
Labor Relations in the Public Sector: Current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process. *Occasional.*

PAD 5807 HPA-PUB 3(3,0)
Local Government Operations: Operational Functions of municipal and county governments and the role of the chief executive officer. *Occasional.*

PAD 5850 HPA-PUB 3(3,0)
Grant and Contract Management: PR: Admission to the Master of Nonprofit Management, or Master of Research Administration, Certificate in Nonprofit Management, Certificate in Emergency Management and Homeland Security, Certificate in Public Administration, or Certificate in Fundraising, or C.I. Study of government or public nonprofit agency grant and contract administration and management responding to funding assistance solicitations and grant and contract preparation, evaluation, and presentation. *Fall, Spring.*

PAD 5855 HPA-PUB 3(3,0)
Introduction to Public Procurement: PR: Admission to Master of Public Administration, or Master of Nonprofit Management, or C. I. Acquisition of knowledge and skills relating to the public procurement process. *Occasional.*

PAF 2102 HPA-HPA 2(2,0)
Public Affairs Careers: Introduction and examination of public affairs programs of study and career opportunities that will prepare students for future careers. *Fall.*

PAF 3850H HPA-HP 3(3,0)
Honors Research Methods in Health and Public Affairs: PR: Participating in University Honors or Honors in the Major and junior standing. Applied research methods in fields of Criminal Justice, Nursing, Health Professions, Public Administration, and Social Work. With honors content. *Occasional.*

PAF 4754 HPA-PUB AFF 3(3,0)
Interdisciplinary Leadership in Public Affairs: PR: Junior Standing and ENC 1101 or C.I. Global public affairs leadership in social and economic development, social justice, transnational and interdisciplinary partnerships, and social change. *Occasional.*

PAZ 4234 COS-BIOL 3(3,0)
Zoo and Aquarium Management: PR: A "C" (2.0) or better in both PCB 3044 and PCB 3063, or C.I. Conservation, propagation and exhibition of wild animals in captivity. *Occasional.*

PAZ 5235 COS-BIOL 3(3,0)
Zoo and Aquarium Biology Management: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Conservation, propagation and exhibition of wild animals in captivity. *Occasional.*

PCB 3023 COS-BIOL 3(3,0)
Molecular Cell Biology: PR: CHM 2210 and a "C" (2.0) or better in both BSC 2010C and PCB 3063, or C.I. Structure and function of eukaryotic cells including bioenergetics, protein structure and function, chromosome structure, DNA repair and recombination, membrane structure and transport, intracellular vesicle trafficking, cell signaling, apoptosis and cell cycle control and organization and functions of the cytoskeleton and extracellular matrix. *Fall, Spring.*

PCB 3044 COS-BIOL 3(3,0)
Principles of Ecology: PR: CHM 2045C or CHM 2041, and a "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Elements of ecosystems, biogeochemical cycling, environmental factor interactions, population dynamics, and community development. *Fall.*

PCB 3044L COS-BIOL 1(0,3)
Principles of Ecology Laboratory: PR: or CR: PCB 3044 or C.I. Field and laboratory investigations of natural ecosystems, with emphasis on current methodology in ecology. *Fall.*

PCB 3063 COS-BIOL 3(3,0)
Genetics: PR: CHM 2046 and a "C" (2.0) or better in BSC 2010C, or C.I. Basic principles of heredity as applied to prokaryotes and eukaryotes. *Fall, Spring.*

PCB 3063H COS-BIOL 3(3,0)
Honors Genetics: PR: CHM 2046 and a "C" (2.0) or better in BSC 2010C, or C.I., and consent of Honors. Basic principles of heredity as applied to prokaryotes and eukaryotes with honors content. *Occasional.*

PCB 3063L COS-BIOL 1(0,3)
Genetics Laboratory: PR: or CR: PCB 3063 or C.I. Introduction to laboratory techniques of genetics. *Fall, Spring.* M&S fee \$28.00

PCB 3233 COM-BSBS 3(3,0)
Immunology: PR: BSC 2010C. Basic principles of immune reactions, antigen antibody interactions, cell mediated immunity, tumor immunology, and immuno therapy. *Fall.*

PCB 3233L COM-BSBS 1(0,3)
Immunology Laboratory: CR: PCB 3233. Introduction to laboratory techniques in immunology. *Fall, Spring.* M&S fee \$46.00

PCB 3343L COS-BIOL 2-5(0,6-15)
Principles of Field Ecology: PR: BSC 2011C, PCB 3044 or C.I. Applied study of biodiversity, ecology and conservation through field trips, field research and/or lectures. Emphasis and location varies by instructor. May be repeated for credit only when course content is different. *Occasional.*

PCB 3354 COS-BIOL 3(3,0)
Tropical Ecology and Conservation: PR: PCB 3044 with a grade of "C" (2.0) or better, or C.I. Geography, ecology, and environmental problems encountered in various tropical ecosystems with particular emphasis towards terrestrial systems in tropical rainforests. *Occasional.*

PCB 3355L COS-BIOL 2(0,2)
Tropical Marine Biology: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Intensive, one week field course at an institute of marine science. Diving/snorkeling will be used extensively to study organisms on pristine coral reefs. *Occasional.*

PCB 3442 COS-BIOL 3(3,0)
Aquatic Ecology: PR: A minimum grade of "C" (2.0) in both BSC 2010C and BSC 2011C, or C.I. An introduction to aquatic ecology of Florida with emphasis on ponds, lakes, streams, and rivers. *Occasional.*

PCB 3522 COM-BSBS 3(3,0)
Molecular Biology I: PR: CHM 2211 and MCB 3020C or C.I. The general principles governing the structure and function of both prokaryotic and eukaryotic genes. *Fall, Spring.*

PCB 3522H COM-BSBS 3(3,0)
Honors Molecular Biology I: PR: CHM 2211 and MCB 3020C or C.I. The general principles governing the structure and function of both prokaryotic and eukaryotic genes. *Occasional.*

PCB 3703C COM-BSBS 4(3,3)
Honors Human Physiology: PR: BSC 2010C, CHM 2046 and consent of Honors College. The physiology and interrelationships of organ systems of the human body. With honors level content. *Fall.*

PCB 3703C COM-BSBS 4(3,3)
Human Physiology: PR: BSC 2010C, CHM 1032 or CHM 2045C. The physiology and interrelationships of organ systems of the human body. *Fall, Spring.* M&S fee \$70.00

PCB 4028 COM-BSBS 3(3,0)
Molecular and Cellular Pharmacology: PR: PCB 3522. The cellular and molecular events that lead to disease states and the molecular basis of agents that modulate these processes will be covered. *Spring.*

PCB 4135 COM-BSBS 3(3,0)
Applied Molecular Cell Biology: PR: PCB 3522, PR or CR: PCB 4524. Discussion on concepts and experimental approaches in molecular cell biology for discovery of modern therapeutics. *Spring.*

PCB 4174 COM-BSBS 3(3,0)
Foundation of Bio-Imaging Science: PR: BSC 2010C, CHM 2045C, CHM 2210, MAC 2311C, PHY 2049. Fundamental theory, design, and practice of modern bio-imaging techniques applicable for basic biomedical research. *Occasional.*

PCB 4234 COM-BSBS 3(3,0)
Cancer Biology: PR: PCB 3522 or PCB 3023. Current knowledge and research on molecular mechanism of tumor development, tumor progression, metastasis and therapy of cancer. *Occasional.*

PCB 4264 COM-BSBS 3(3,0)
Stem Cell Biology: PR: PCB 3522 or PCB 3023. Introduction to embryonic and adult stem cells, procedures to isolate them, principles and applications of stem cells in animal and human diseases. *Occasional.*

PCB 4280 COM-BSBS 3(3,0)
Molecular Immunology: PR: MCB 3020C. Advanced understanding of the workings of the immune system, correlating cellular and molecular mechanisms with clinical cases. *Fall.*

PCB 4284 COM-BSBS 3(3,0)
Immunobiology: PR: PCB 3233. Investigating innate host defense utilizing an approach that combines online didactic coursework with paper-based analytical studies. Recommended for students interested in research. *Occasional.*

PCB 4353 COS-BIOL 3(3,0)
Florida Ecology, Natural History and Conservation: PR: PCB 3044C, or C.I. General ecology, habitats, vegetation types, wildlife, and conservation issues of Florida. *Odd Fall.*

PCB 4402 COS-BIOL 3(3,0)
Disease Ecology & Ecoimmunology: PR: A grade of "B" (3.0) or better in PCB 3063 and PCB 3044 or C.I. Examination of how hosts, parasites and environment interact to shape organisms, populations and communities. *Occasional.*

PCB 4408 COS-BIOL 3(3,0)
Urban Ecology: PR: PCB 3044 with a "B" (3.0) or better, or C.I. Urban ecosystems, urbanizing landscapes, and the impacts of urban areas on ecological pattern and processes at local, regional and global scales. *Occasional.*

PCB 4514 COS-BIOL 3(3,0)
Genetics II: PR: A minimum grade of "B" (3.0) in PCB 3063, or C.I. Advanced topics in genetics and epigenetics including genome organization, gene regulation, chromosome mutation, developmental genetics and the effect of environment on phenotype. *Even Fall.*

PCB 4521 COM-BSBS 3(3,0)
Tissue Engineering: PR: MCB 3020C or CHM 2045C. Tissue engineering with a special emphasis on the current status of the field, on novel methods and on cell-biomaterial interactions. *Occasional.*

PCB 4524 COM-BSBS 3(3,0)
Molecular Biology II: PR: PCB 3522. The processes regulating gene function in prokaryotes and eukaryotes; specialized genetic aspects underlying multi-cellular existence, DNA evolution. *Spring.*

PCB 4524H COM-BSBS 3(3,0)
Honors Molecular Biology II: PR: Permission of Honors and PCB 3522. Same as PCB 4524 with honors level content. *Spring.*

PCB 4529C COM-BSBS 4(3,4)
Experimental Molecular Cell Biology: PR: BSC 3403C with a "B" (3.0) or better, or PCB 3023 with a "B" (3.0) or better. Examination of the experimental basis for current knowledge in molecular and cellular biology topics and will link classroom discussions with a required laboratory component. *Spring.*

PCB 4663 COM-BSBS 3(3,0)
Human Genetics: PR: PCB 3522 or PCB 3023. Topics include the principles of genetics as applied in humans, human hereditary disorders, and the impact of genetics and technology on medicine and medical practices. *Spring.*

PCB 4678 COS-BIOL 3(3,0)
Evolution and Medicine: PR: A "B" (3.0) or better in PCB 4683, or C.I. Evolutionary theory and perspectives to investigate problems in human health and disease. *Odd Fall.*

PCB 4683 COS-BIOL 4(4,0)
Evolutionary Biology: PR: A grade of "C" (2.0) or better in PCB 3044 and PCB 3063 or C.I. Demographic and genetic structure of populations and their relationship to speciation, adaptation, and macroevolutionary processes in plants and animals. *Fall, Spring.*

PCB 4683L COS-BIOL 1(0,2)
Evolutionary Biology Lab: PR: or CR: PCB 4683. Reading, problem solving and discussion on current topics in evolutionary biology. *Fall, Spring.* M&S fee \$3.00

PCB 4684 COS-BIOL 3(3,0)
Population Genetics: PR: A "C" (2.0) or better in both PCB 3063 and PCB 4683, or C.I. Field of population genetics and the study of the various forces that result in evolutionary changes through time. *Even Spring.*

PCB 4708L COM-BSBS 3(0,6)
Laboratory Virtual Simulations in Physiology: PR: PCB 3703C or ZOO 3733C. Conduct experiments in physiology that enhance the ability to design, collect, analyze data and report results in a scientific manner. *Occasional.*

PCB 4722 COS-BIOL 4(4,0)
Comparative Animal Nutrition: PR: BSC 2010C, BSC 2011C, CHM 2210, CHM 2211, PCB 3044. The fundamental topics of animal nutrition, including all known nutrients important for animal life. *Spring.*

PCB 4723 COS-BIOL 4(4,0)
Animal Physiology: PR: A "C" (2.0) or better in PCB 3023, or C.I. Functions of body processes occurring in animals, with emphasis on vertebrate physiology. *Fall.*

PCB 4802 COS-BIOL 3(3,0)
Comparative Endocrinology: PR: A "C" (2.0) or better in both PCB 3023 and PCB 3044, or C.I. Hormonal regulation of an animal's physiological responses to environmental changes. *Occasional.*

PCB 4805 COM-BSBS 3(3,0)
Endocrinology: PR: PCB 3703C or equivalent; CHM 2211. Mechanisms of action of hormones; interrelationship between the nervous and endocrine systems. *Occasional.*

PCB 4813 COM-BSBS 3(3,0)
Molecular Aspects of Obesity, Diabetes & Metabolism: PR: PCB 3522 or BCH 4053. Advanced topics of physiological processes at the cellular, molecular and system level. *Spring.*

PCB 4832 COM-BSBS 3(3,0)
Cellular and Molecular Basis of Brain Functions: PR: PCB 3522, PCB 3703C, ZOO 3733C. Designed to provide advanced undergraduate students the concepts required to understand the physiological basis of brain functions at the molecular, cellular and system levels. *Fall.*

UCF Courses and Descriptions

PCB 4833 COM-BSBS 3(3,0)
Advanced Human Physiology: PR: PCB 3522, PCB 3703C, ZOO 3733C. Advanced topics of physiological processes at the cellular, molecular and system levels. *Fall*.

PCB 4843 COM-BSBS 3(3,0)
Cellular and Molecular Neuroscience: PR: ZOO 3744. An advanced and thorough course providing understanding of the cellular components and molecular signaling pathways involved in the nervous system function. *Spring*.

PCB 4943 COM-BSBS 3(3,0)
Peer Instruction and Laboratory Occupational Training: PR: BSC 3403C or BSC 3403H. Internship practicum in a molecular biology laboratory where students teach, present, read journal articles, and work on a research project. May be repeated for credit. *Occasional*.

PCB 5025 COM-BSBS 3(3,0)
Molecular and Cellular Pharmacology: PR: Graduate standing, PCB 3522. The cellular and molecular events that lead to disease states and the molecular basis of agents that modulate these processes will be covered. *Spring*.

PCB 5045 COS-BIOL 4(4,0)
Conservation Biology: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Scientific basis of conservation; conservation of ecosystems, populations, exploited species, and endangered species. *Fall*.

PCB 5235 COM-BSBS 3(3,0)
Molecular Immunology: PR: MCB 3020C or equivalent. Fundamental functions of the human immune system, focusing on cellular and molecular aspects of the innate and adaptive immune response. *Fall*.

PCB 5236 COM-BSBS 3(3,0)
Cancer Biology: PR: PCB 4524 and graduate standing. Current knowledge and research on molecular mechanism of tumor development, tumor progression, metastasis and therapy of cancer. *Occasional*.

PCB 5238 COM-BSBS 3(3,0)
Immunobiology: PR: PCB 3233, PCB 4280. Advanced topics in immune system dysregulation with special emphasis on innate immunity. *Spring*.

PCB 5265 COM-BSBS 3(3,0)
Stem Cell Biology: PR: Graduate standing. Introduction to embryonic and adult stem cells, procedures to isolate them, principles and applications of stem cells in animal and human diseases. *Occasional*.

PCB 5275 COM-BSBS 3(3,0)
Signal Transduction Mechanisms: PR: PCB 3522 and PCB 4524. A course emphasizing various signal transduction cascades used in mammalian cells to control growth and differentiation. Discussion of original research papers will occur. *Occasional*.

PCB 5326C COS-BIOL 5(3,2)
Ecosystems of Florida: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Ecosystems of Florida will be discussed to include geography, geology, climate, energetics, nutrient cycling, community structure and conservation. *Occasional*. M&S fee \$15.00

PCB 5435C COS-BIOL 4(2,6)
Marine Ecology of Florida: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Survey of experimental methods used in the study of marine communities in central and southern Florida, combining field manipulation and readings from primary literature. *Odd Spring*.

PCB 5447 COS-BIOL 3(3,0)
Disease Ecology & Ecoimmunology: PR: A grade of B (3.0) or better in Genetics (PCB 3063 or equivalent) and Ecology (PCB 3044 or equivalent), or C.I., or graduate standing. Examination of how hosts, parasites and environment interact to shape organisms, populations and communities. *Occasional*.

PCB 5485 COS-BIOL 3(3,0)
Models in Ecology: PR: PCB 3044, MAC 2311C (or equivalent), and graduate status or senior standing or C.I. A survey of how simulation models are applied to ecological questions of both a theoretical and managerial nature. *Occasional*.

PCB 5527 COM-BSBS 3(3,0)
Genetic Engineering and Biotechnology: PR: PCB 3522 and PCB 4524 or C.I. Principles of Genetic Engineering/Biotechnology in Bacteria, Yeast, Viral, Mammalian, Non-mammalian systems, Plants, including human gene therapy, novel pharmaceuticals, recombinant proteins will be discussed in depth. *Fall*.

PCB 5596 COM-BSBS 3(3,0)
Biomedical Informatics: Sequence Analysis: PR: PCB 3522 or equivalent or C.I. Introduction of useful bioinformatics tools and resources on sequence analysis. *Fall*.

PCB 5687 COS-BIOL 3(3,0)
Evolutionary Ecology: PR: PCB 4683 or equivalent and C.I. Evolution of life history traits (e.g., propagule size/number, age/size at maturity, survivorship and senescence) examined using a quantitative genetic framework. *Even Fall*.

PCB 5709C COM-BSBS 3(1,2)
Laboratory Virtual Simulations in Physiology: CR: PCB 5834C Advanced Human Physiology. Conduct experiments in physiology that enhance the ability to design, collect, analyze data and report results in a scientific manner. *Occasional*.

PCB 5815 COM-BSBS 3(3,0)
Molecular Aspects of Obesity, Diabetes & Metabolism: PR: PCB 3522 or BCH 4053 or BSC 6432. Biochemical, molecular and physiological aspects of obesity, diabetes and metabolic diseases and how scientific findings can be translated towards prevention and treatment. *Odd Spring*.

PCB 5834C COM-BSBS 4(3,2)
Advanced Human Physiology: PR: Graduate standing or C.I. Designed to provide graduate students advanced knowledge of physiological processes at the cellular, molecular and system levels. *Fall*.

PCB 5837 COM-BSBS 3(3,0)
Cellular and Molecular Neuroscience: PR: Graduate standing. An advanced and thorough course providing understanding of the cellular components and molecular signaling pathways involved in the nervous system function. *Spring*.

PCB 5838 COM-BSBS 3(3,0)
Cellular and Molecular Basis of Brain Functions: PR: Graduate Standing or C.I. Designed to provide graduate students the concepts required to understand the physiological basis of brain functions at the molecular, cellular and system levels. *Fall*.

PCB 5935 COS-BIOL 3(3,0)
Population Genetics: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Population genetics and the study of the various forces that result in evolutionary changes through time. *Even Fall*.

PCO 4203 COS-PSYCH 3(3,0)
Interviewing and Counseling: PR: PSY 2012. A review of various interviewing and counseling theories and techniques used in Mental Health settings as well as practical experience in interviewing and counseling procedures. *Fall, Spring*.

PEL 2011 ED-E&HS 2(1,1)
Basic Volleyball and Softball: The analysis of offensive and defensive alignment, techniques, and strategies. *Occasional*.

PEL 2111 ED-E&HS 2(1,1)
Bowling: Fundamentals of bowling techniques and the development of skills based on those fundamentals. *Occasional*.

PEL 2112 ED-E&HS 2(1,1)
Intermediate Bowling: PR: PEL 2111, bowling experience, or average of 140 verification by league sheet. This course provides in-depth information that is necessary for the development of high bowling averages. *Occasional*.

PEL 2121 ED-E&HS 2(1,1)
Beginning Golf: Performance and application of basic skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport. *Fall, Spring*.

PEL 2122 ED-E&HS 2(1,1)
Intermediate Golf: PR: PEL 2121 or equivalent competency. A study of performance and application of intermediate skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport. *Occasional*.

PEL 2341 ED-E&HS 2(1,1)
Beginning Tennis: Performance and application of basic skills, rules and etiquette. Physiological and social values accruing from this lifetime sport. *Occasional*.

PEL 2342 ED-E&HS 2(1,1)
Intermediate Tennis: PR: PEL 2341 or equivalent competency. Performance and application of advanced skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport. *Occasional*.

PEL 2640 ED-E&HS 2(1,1)
Basic Football and Basketball: The analysis of offensive and defensive alignment, techniques, and strategies. *Occasional*.

PEM 2101 ED-E&HS 2(1,1)
Body Development: An in-depth study of individual physical (musculo-skeletal, neuromuscular, cardiorespiratory) fitness. Emphasis on individual diagnosis, principles, procedures, and conduct of related exercise programs. *Fall, Even Spring*.

PEM 2104 ED-E&HS 3(2,1)
Personal Fitness: Study of personal fitness concepts, with opportunities to develop an individual, optimal level of fitness and an improved lifestyle through high-level wellness. *Fall, Spring*.

PEM 2121C ED-E&HS 3(1,3)
Yoga: Performance and application of a series of basic movement, breathing, and concentration techniques designed to enhance body awareness, flexibility, strength, and balance, and to allow the mind to be focused and centered. *Fall, Spring*.

PEM 2122 CAH-MUSIC 1(0,2)
Yoga for Performers: The practice and study of Yoga, including postures, breathing and meditation, focusing on the needs of performers *Fall, Spring*.

PEM 2127C ED-E&HS 2(1,1)
Pilates: The Pilates method of body conditioning emphasizing core musculature as it applies to everyday movement. *Occasional*.

PEM 2131 ED-E&HS 2(1,1)
Strength Resistance Training: Study of fitness and strength development through resistance exercise. *Fall, Spring*.

PEM 2134C ED-E&HS 2(1,1)
Adventure Recreation: Options for adventure recreation including: outdoor living skills, canoeing, kayaking, rock climbing, hiking and backpacking. *Occasional*.

PEM 2171 ED-E&HS 2(1,1)
Aerobics: Appropriate rhythmical muscle toning movements that develop aerobic fitness; concepts taught include warm-up, flexibility, stretching, cool down, and heart rate. *Fall, Spring*.

PEM 2173 ED-E&HS 2(1,1)
Step Aerobics: Appropriate rhythmical muscle toning movements utilizing the step to develop aerobic fitness. Concepts taught include warm-up, flexibility, work-out, and cool-down. *Occasional*.

PEM 2175 ED-E&HS 2(1,1)
Country/Western Dance: Basic instruction in Country/Western Dance. Improve aerobic fitness by learning line dances, circle dances and basic partner steps, such as two-step and waltz. *Occasional*.

PEM 2176C ED-E&HS 2(1,1)
Cardio Kickboxing: Proper technique and fundamentals of cardio kickboxing. *Occasional*.

PEM 2405 ED-E&HS 3(1,2)
Self Defense for Women and Men: Designed to provide students with self defense skills. *Fall, Spring.*

PEM 2431 ED-E&HS 2(2,0)
Beginning Judo: Study and application of basic skills; falling, throwing, ground techniques, basic self-defense, terminology, philosophy and fitness training involved in the Olympic sport of Judo. *Fall, Spring.*

PEM 2432 ED-E&HS 2(2,0)
Intermediate Judo: PR: PEM 2431 or C.I. Study and application of intermediate skills, body and strength conditioning, appropriate protocols and terminology involved in Judo training. *Fall, Spring.*

PEM 5408C ED-CFCS 3(2,1)
Controlling Classroom Violence: PR: Graduate standing; certified teacher. A hands-on course dealing with controlling disruption and violence as well as how teachers can protect themselves. *Occasional.*

PEO 2011 ED-E&HS 3(2,1)
Team Sports: This course is designed to develop skill proficiency and knowledge to plan, implement and evaluate team sports as part of the Physical Education program. *Fall, Spring.*

PEO 2031 ED-E&HS 3(2,1)
Individual Sports: Skill proficiency and knowledge to plan, implement and evaluate individual sports. *Fall, Spring.*

PEO 2623C ED-E&HS 2(1,1)
Officiating Basketball: Skills, knowledge, and practical experience required to become an official in the sport of basketball. *Occasional.*

PEO 3041 ED-E&HS 3(3,0)
Games Analysis: PR: Admission to Sport and Exercise Science program and minimum overall 2.5 GPA. Teaching methodology utilizing games for specific outcome behaviors in grades K-12. *Fall, Spring.*

PEO 3324 ED-E&HS 3(2,1)
Coaching Volleyball: PR: Admission to Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Theory and methods of coaching volleyball, including the analysis of offensive and defensive alignment techniques and strategies. *Spring.*

PEO 3514C ED-E&HS 3(2,1)
Coaching Soccer: PR: Admission to the Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Theory and methods of coaching soccer, including the analysis of offensive and defensive techniques and strategies. *Fall, Spring.*

PEO 3624 ED-E&HS 3(3,0)
Coaching Basketball: PR: Admission to the Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Theory and methods of coaching basketball, including the analysis of offensive and defensive techniques and strategies. *Fall, Spring.*

PEO 3644 ED-E&HS 3(2,1)
Coaching Football: PR: Admission to the Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Theory and methods of coaching football, including the analysis of offensive and defensive techniques and strategies. *Occasional.*

PEO 5645C ED-CFCS 3(2,1)
Coaching Football: PR: C.I. Advanced principles and methods common to the coaching of football. Includes teaching and training methods, organization, motivation and strategies. *Occasional.*

PET 2081 ED-E&HS 1(1,0)
Wellness, Children and Schools: Exploration and promotion of wellness for children in schools. *Fall, Spring.*

PET 3005 ED-E&HS 3(3,0)
Introduction to Sport and Exercise Science: PR: Admission to Sport and Exercise Science program or Sport and Exercise Science Pending or department consent. An introduction to sport and exercise science with emphasis in fitness, recreation, physical activity, and human performance. *Fall, Spring.*

PET 3097 ED-E&HS 3(3,0)
Health and Wellness: PR: Admission to Sport and Exercise Science program or Sport and Exercise Science Pending. Explore wellness through science and the statistics of risk factors for mortality and morbidity. Students will interpret indicators, evaluate choices using assessment-intervention-reinforcement protocols. *Fall, Spring.*

PET 3125 ED-E&HS 3(3,0)
Fitness and Weight Management: PR: Admission to Sport and Exercise Science program or Fitness Training Minor and minimum overall 2.5 GPA. Provides current and future professionals with the requisite knowledge of fitness and weight management research, theories, and practice. *Fall, Spring.*

PET 3137 ED-E&HS 3(3,0)
Concepts and Practices in Sport and Exercise Science: PR: Admission to the Sport and Exercise Science program or C.I. Examination of experiences in Sport and Exercise Science program: concepts, practices, and science. *Fall, Spring.*

PET 3361 ED-E&HS 3(3,0)
Nutrition and Metabolism in Sport and Exercise Science: PR: Admission to Sport and Exercise Science program or Fitness Training Minor, BSC 2010C or equivalent and minimum overall 2.5 GPA. Study of nutrition with focus on the strategies designed to meet nutrient demands for physical activity, exercise, metabolism, and athletic performance in sport and exercise sciences. *Fall, Spring.*

PET 3510C HPA-HP 3(2,1)
Physiologic & Metabolic Basis of Human Movement & Performance: PR: Admission to Athletic Training B.S. Program. Exercise physiology, drugs & nutrition, and performance & injury; each focusing on the key elements for the application of athletic training principles. *Fall.*

PET 3765 ED-E&HS 3(3,0)
Coaching Theory: PR: Admission to Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Theories of coaching team and individual sports. *Fall, Spring.*

PET 3768 ED-E&HS 3(3,0)
Group Exercise Instruction: PR: Admission to Sport and Exercise Science program or Fitness Training Minor and minimum overall 2.5 GPA. An in-depth study into group exercise instruction and fitness related concepts. *Fall.*

PET 3771 ED-E&HS 3(3,0)
Strength and Conditioning Concepts: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent and minimum overall 2.5 GPA. Integration of advanced components of muscular strength training and endurance conditioning for the sport and exercise professional. *Fall, Spring.*

PET 3820 ED-E&HS 3(3,0)
Teaching Sports Skills I: PR: Admission to the Sport and Exercise Science Program, Sport and Exercise Science Pending or Community Sport and Fitness Minor. Skill proficiency and knowledge to plan, implement and evaluate sports and leisure activities in physical education programs. *Fall, Spring.*

PET 4050C ED-E&HS 3(2,1)
Motor Development and Learning: PR: Admission to Sport and Exercise Science program or Early Childhood Development and Education program and minimum overall 2.5 GPA. An analysis of the theories and factors influencing the motor development of children and the learning of gross and fine motor skills. *Fall, Spring.*

PET 4083 ED-E&HS 3(3,0)
Personal Training Methods: PR: Admission to Sport and Exercise Science program or Fitness Training Minor and minimum overall 2.5 GPA. An in-depth study into personal training and fitness related concepts. *Fall, Spring.*

PET 4088 ED-E&HS 3(3,0)
Physical Activity & Preventive Medicine: PR: Admission to the Sport and Exercise Science Program, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent and minimum overall 2.5 GPA. Critique and analysis of evidence that exercise training can prevent some diseases and increase quality of life. *Fall, Spring.*

PET 4143 ED-E&HS 3(3,0)
Current Issues & Trends in Sport and Exercise Science: PR: Admission to Sport and Exercise Science program and minimum overall 2.5 GPA. Examination of the current issues and trends encountered by professionals in sport and exercise science. *Fall, Spring.*

PET 4215 ED-E&HS 3(3,0)
Motivational Aspects of Athletic Performance: PR: Admission to Sport and Exercise Science program, Fitness Training Minor or Coaching Minor and minimum overall 2.5 GPA. Theories of attitude, motivation, effort, persistence, mental focus, visualization, and an exploration of techniques to enhance athlete performance. *Fall, Spring.*

PET 4312C ED-E&HS 3(2,1)
Kinesiology/Biomechanics: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent and minimum overall 2.5 GPA. The comprehension and application of anatomical and mechanical principles involved in human movement. *Fall, Spring.*

PET 4315C HPA-HP 3(2,1)
Biomechanics of Sport: PR: PHY 2053C or PHY 2048C. Assessment and recognition of physiological and mechanical aspects of sports and injuries. *Spring.*

PET 4325 ED-E&HS 3(3,0)
Functional Kinesiology for Sport and Exercise Science: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent and minimum overall 2.5 GPA. Study of functional anatomy and elementary biomechanics. Emphasis placed on analysis of skeletal, muscular and nervous systems and biomechanical factors associated with efficient motor development. *Fall, Spring.*

PET 4401 ED-E&HS 3(3,0)
Administration and Evaluation in Sport and Fitness: PR: Admission to the Sport and Exercise Science Program and minimum overall 2.5 GPA. Addressing administrative, measurement and evaluation aspects of Sport and Fitness programs. *Fall, Spring.*

PET 4550C ED-E&HS 3(2,1)
Assessment and Evaluation in Exercise Science: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent, APK 4110C and minimum overall 2.5 GPA. A study and acquisition of health related fitness, exercise strategies and related assessment techniques. *Fall, Spring.*

PET 4552 ED-E&HS 3(3,0)
Exercise Prescription for Special Populations: PR: Admission to the Sport and Exercise Science Program or Fitness Training Minor, BSC 2010C or equivalent, ZOO 3736C or ZOO 3733C or equivalent, APK 4110C and minimum overall 2.5 GPA. Students integrate knowledge of exercise science, physiology, and fitness conditioning to develop exercise for populations dealing with aging, osteoporosis, diabetes, obesity, heart disease, and pregnancy. *Fall, Spring.*

PET 4606 HPA-HP 3(3,0)
Applied Fitness in Sport: PR: ZOO 3733C or ZOO 3736C and PCB 3703C; Junior standing; COHPA majors and Health Sciences minors only. Physiological adaptations to exercise, biomechanics, psychology, performance enhancing substances, nutrition, fitness testing procedures, exercise technique, program design, advanced rehabilitation and administration. *Spring.*

PET 4710 ED-E&HS 3(3,0)
Methods for Physical Activity for Children and Adolescents: PR: Admission to Sport and Exercise Science program and minimum overall 2.5 GPA. Develop effective instructional skills through planning, teaching, and assessment. Curricular and instructional considerations for physical activity in children and adolescents. *Fall, Spring.*

PET 4763 ED-E&HS 3(3,0)
Coaching Methods And Principles: PR: Admission to Sport and Exercise Science program, Sport and Exercise Science Pending or Coaching Minor. Assist students in understanding and conceptually integrating teaching methods/coaching strategies with emphasis given to conditioning and leadership styles. *Fall, Spring.*

UCF Courses and Descriptions

PET 4901 ED-E&HS 3(3,0)
Capstone in Sport and Exercise Science: PR: Senior standing in Sport and Exercise Science program, minimum overall 2.5 GPA and Advisor Consent. Enhances students' oral and written presentation ability in issues and topics related to sport and exercise science. *Fall, Spring.*

PET 4925 ED-E&HS 6(0,16)
Sport and Fitness Practicum I: PR: Overall GPA of 2.5 and completion of 1/3 of the Sport and Fitness program requirements. Field experience in a sport and fitness related organization. Graded S/U. *Fall, Spring.*

PET 4926 ED-E&HS 9(9,0)
Sport and Exercise Science Practicum: PR: Senior standing in Sport and Exercise Science program, minimum 2.75 GPA and Advisor Consent. Field experience in a sport and exercise science organization, association, or business. Graded S/U. *Fall, Spring.*

PET 5216 ED-E&HS 3(3,0)
Motivational Aspects of Coaching: PR: Graduate standing or C.I. Assist students to understand and conceptually integrate mental and physical performance, mental rehearsal, motivation, effort, persistence, adherence and compliance, measurement and evaluation, and other related topics of interest. *Occasional.*

PET 5355 ED-E&HS 3(3,0)
Exercise and Health: PR: Admission to master's program or certificate program. Will provide educators an in-depth understanding of energy pathways, and neuromuscular, cardiovascular, and respiratory systems during exercise. Emphasis on understanding principles of exercise adaptations and applying those principles to fitness/wellness settings. *Occasional.*

PET 5495 ED-E&HS 3(3,0)
Critical Issues: Ethics in Coaching and Sport: PR: Graduate standing or C.I. Specializes in coaching and sport leadership in self-evaluating, examining, and developing philosophy, values, and moral reasoning skills. *Occasional.*

PET 5766 ED-E&HS 3(3,0)
Advanced Coaching Theory: PR: C.I. Advanced study of theories and methods of coaching for optimum sports performance. *Occasional.*

PGY 2401C CAH-SVAD 3(3,2)
Beginning Photography: PR: ART 2201C, ART 2300C or C.I. Introduction to photography with an art emphasis. *Fall, Spring.* M&S fee \$45.00

PGY 3002 CAH-SVAD 3(3,0)
Contemporary Photography: PR: PGY 2401C or C.I. Late 20th and 21st century (1970's-present) contemporary movements in photography, special emphasis on issues and ideas relative to contemporary image making. *Occasional.*

PGY 3205C CAH-SVAD 3(2,4)
Photographic Lighting Techniques: PR: PGY 2107 (offered through Daytona State College) or equivalent. Advanced lighting techniques in both the studio and on location, with projects in the editorial, advertising, or fine art genres. *Occasional.* M&S fee \$70.00

PGY 3276 CAH-SVAD 3(3,0)
The Professional Environment: PR: PGY 3002 or C.I. Concepts necessary for operation of a photography studio. Includes legal, ethical issues; marketing; self-promotion strategies; funding opportunities; professional development; and professional presentation. *Occasional.*

PGY 3410C CAH-SVAD 3(3,2)
Intermediate Photography: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, PGY 2401C. Intermediate camera and darkroom practice designed for art majors with studio skills. *Spring.* M&S fee \$49.00

PGY 3451C CAH-SVAD 3(2,4)
Alternative Processes: PR: PGY 3472C or C.I. 19th century photographic processes with related contemporary non-traditional methods of image creation and presentation. *Occasional.* M&S fee \$45.00

PGY 3472C CAH-SVAD 3(2,4)
Photo Visualization: PR: PGY 2000 (offered through Daytona State College) or equivalent. Analysis of visual problems with an emphasis on communicating and applying a theoretical language to photographic imagery. *Occasional.* M&S fee \$68.00

PGY 3480 CAH-SVAD 3(3,0)
Museum and Gallery Practices: PR: PGY 3002 Contemporary Photography. The museum and gallery environment focusing on the acquisition and display of photographic materials and curatorial functions. The course includes a service learning component. *Occasional.*

PGY 3610C COS-COMM 3(1,4)
Photojournalism I: PR: Journalism majors only. Digital photojournalism and visual storytelling, with emphasis on camera basics, composition skills, digital photo-editing skills, and caption writing skills. See instructor for minimal camera requirements. *Occasional.*

PGY 3620C COS-COMM 3(1,2)
Photojournalism II: PR: PGY 3610C. The Picture Story. Individual and group projects for extended documentary coverage. *Occasional.*

PGY 3630 COS-COMM 3(3,0)
Photojournalism III: PR: PGY 3620C. Photography Editing. Assignment selection, picture and copy editing, cropping, picture desk management, and ethics of photojournalism, and the new technological advances. *Occasional.*

PGY 3651C CAH-SVAD 3(2,4)
Narrative Editorial Photography: PR: PGY 2650 (offered through Daytona State College) or equivalent. Explores photography in narrative, documentary, and editorial form. Research, story, text, and visual style will be addressed. *Occasional.* M&S fee \$70.00

PGY 3653C CAH-SVAD 3(2,4)
Advanced Editorial Photography: PR: PGY 3651C. Exploration of imagery created to illustrate articles, including still-life, portrait, documentary, and/or fashion photography. Emphasis on the creation of multiple or consecutive images. *Spring.* M&S fee \$69.00

PGY 3703C CAH-SVAD 3(2,4)
Photography & the Web: PR: PGY 3821C or C.I. Advanced issues in digital imaging, emphasis on professional output solutions for the photographer such as web as an interface, large format printing, and film recorder. *Occasional.* M&S fee \$45.00

PGY 3751C CAH-SVAD 3(2,4)
Videography: PR: PGY 3821C or C.I. Creation of video narratives using the digital environment. *Occasional.*

PGY 3821C CAH-SVAD 3(2,4)
Advanced Digital Photography: PR: PGY 2401C or C.I. Current digital imaging software and its application to contemporary work. *Occasional.* M&S fee \$69.00

PGY 3930C CAH-SVAD 3(2,4)
The Photo-book: PR: PGY 2401C. The study and application of the major trends and movements that have shaped the photo-book genre since the birth of photography to the self-publishing boom. *Spring.*

PGY 4003 CAH-SVAD 3(3,0)
Image, Culture, and Society: PR: PGY 3002 or C.I. The role of the media and media imagery in culture and society. *Occasional.*

PGY 4228C CAH-SVAD 3(2,4)
Advanced Illustrative Photography: PR: PGY 3205C or C.I. Various avenues of photographic illustration, including lighting, historical and contemporary issues, style, presentation, and social concerns. *Occasional.* M&S fee \$70.00

PGY 4235C CAH-SVAD 3(2,4)
Professional Photographic Workshop: PR: PGY 3205C. Creative, logistical, and technical processes as related to a variety of special lighting problems in the photographic studio and on location. *Occasional.* M&S fee \$70.00

PGY 4420C CAH-SVAD 3(2,3)
Advanced Photography: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, PGY 3410C, and a satisfactory portfolio review or C.I. Advanced photography skills and portfolio development. Designed for art majors. May be repeated for credit. *Fall, Spring.* M&S fee \$49.00

PGY 4440C CAH-SVAD 3(2,3)
Special Problems in Photography: PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C, PGY 3410C, and a satisfactory portfolio review or C.I. Designed for upper division art majors with photography concentration. A series of directed photographic problems of a research nature. *Occasional.* M&S fee \$20.00

PGY 4471C CAH-SVAD 3(2,4)
Photography Thesis: PR: PGY 3276. Senior thesis project culminating in a public exhibition or portfolio presentation. *Occasional.* M&S fee \$68.00

PGY 4493C CAH-SVAD 3(2,4)
Photography and Art: PR: PGY 3472C, or PGY 3002, or C.I. Creation of photographs related to the expression of personal, political, aesthetic, and theoretical issues and ideas found in historical and contemporary imagery. *Occasional.* M&S fee \$68.00

PGY 5108C CAH-SVAD 3(2,4)
Advanced Techniques and Concepts in Photography: PR: PGY 2401C, PGY 3410C and PGY 4420C, or admission into MFA graduate program. Advanced techniques and concepts in photography, introducing historic and contemporary photographic works. May be used in the degree program a maximum of 3 times. *Occasional.*

PHH 3041 CAH-PHIL 3(3,0)
Russian Philosophy: PR: ENC 1102. A study of major themes and developments in Russian philosophy from the 18th century to the present, including critiques of culture, religion, society, and politics. *Occasional.*

PHH 3100 CAH-PHIL 3(3,0)
Ancient Philosophy: PR: PHI 2010 or C.I. Foundations of Western philosophy in ancient Greek thinking about human beings and nature, including the pre-Socratics, Socrates, Plato, Aristotle. *Occasional.*

PHH 3200 CAH-PHIL 3(3,0)
Medieval Philosophy: PR: PHI 2010 or C.I. The influence of Greek philosophical thought in medieval Muslim, Jewish and Christian philosophy, as expressed in its main problems and representative thinkers. *Occasional.*

PHH 3460 CAH-PHIL 3(3,0)
Modern Western Philosophy: PR: PHI 2010. Major western philosophers and philosophical movements from Descartes to Nietzsche. *Even Fall.*

PHH 3510 CAH-PHIL 3(3,0)
Marx and Nietzsche: PR: Junior standing. The philosophies of Marx and Nietzsche, important differences in outlook and emphasis, the significance of their respective critiques of society, the implications of their contrasting standpoints for understanding human life, the philosophical and ideological influences of their work, and their contemporary relevance. *Occasional.*

PHH 3600 CAH-PHIL 3(3,0)
Contemporary Philosophy: PR: PHI 2010 or C.I. Recent and current trends in philosophy, including philosophical analysis, phenomenology, structuralism, post-structuralism, and liberation philosophies. *Occasional.*

PHH 3700 CAH-PHIL 3(3,0)
American Philosophy: PR: PHI 2010 or AMH 2010 or AMH 2020 or C.I. A thematic and chronological survey of philosophical, religious, and scientific developments in American thought, with primary focus on the American spirit of individualism and reform. *Even Spring.*

PHH 3701 CAH-PHIL 3(3,0)
Native American Philosophy: PR: PHI 2010 or C.I. Academic Native American philosophy in epistemology, political philosophy and environmental studies. *Even Fall.*

PHI 2010 CAH-PHIL 3(3,0)
Introduction to Philosophy: Inquiry into the meaning and justification of fundamental ideas and beliefs concerning reality, knowledge, and values; application to relevant topics in ethics, religion, and politics. *Fall, Spring.*

UCF Courses and Descriptions

PHI 2010H CAH-PHIL 3(3,0)
Honors Introduction to Philosophy: PR: Permission of Honors. Same as PHI 2010 with honors-level content. *Fall*.

PHI 2011 CAH-PHIL 3(3,0)
Philosophical Reasoning: A study of reasoning in philosophy: the role of inconsistency, infinite regress arguments, modeling, and system building, discovery procedures, diagonalization, and contract and paradigm case arguments. *Occasional*.

PHI 2101 CAH-PHIL 3(3,0)
Formal Logic I: A study of sentence and predicate logics, with introduction to modal, epistemic, deontic, multi-valued, and indeterminant logics. *Occasional*.

PHI 2108 CAH-PHIL 3(3,0)
Critical Thinking: The logic of conversation, informal fallacies, and reasoning about human action. *Occasional*.

PHI 2630 CAH-PHIL 3(3,0)
Ethics: An examination of the nature of moral problems, judgements and principles, with an emphasis on recent formulations in ethical theory. *Occasional*.

PHI 2647 CAH-PHIL 3(3,0)
Logic and Ethics: PR: PHI 2101 or COT 3100C or MAD 2104. Research in logic applied to ethics, especially for science and technology. Uses of simulation and modeling to study philosophical problems in ethics. *Occasional*.

PHI 3033 CAH-PHIL 3(3,0)
Philosophy, Religion, and the Environment: PR: Junior standing or C.I. A multicultural treatment of the influence of philosophical and religious views on our understanding of, and relation to, the environment. *Occasional*.

PHI 3083 CAH-PHIL 3(3,0)
Research Methods in Philosophy: PR: Philosophy or Humanities major or C.I. Sources, methods, and styles of research in Philosophy. Aimed at enhancing the research, reading, and writing skills of undergraduate philosophy students. *Odd Fall*.

PHI 3131 CAH-PHIL 3(3,0)
Formal Logic II: PR: PHI 2101. Systematic study of propositional and first-order predicate logic; logic systems and axiomatic methods; problems of metatheory, including consistency, completeness, and decidability. *Occasional*.

PHI 3320 CAH-PHIL 3(3,0)
Philosophy of Mind: PR: PHI 2010, PSY 2012, or C.I. Recent and contemporary attempts to understand the relation of mind to body, the relation of consciousness to personhood, and the relation of psychology to neurobiology. *Occasional*.

PHI 3323 CAH-PHIL 3(3,0)
Minds and Machines: Philosophy of Cognitive Science: PR: PHI 2010 or C.I. Assumptions undergirding research in Cognitive Science. *Fall, Odd Spring*.

PHI 3451 CAH-PHIL 3(3,0)
Philosophy of Psychology: PR: Junior standing or C.I. Philosophical assumptions and foundations of major psychological movements plus other philosophically interesting issues. *Occasional*.

PHI 3625 CAH-PHIL 3(3,0)
Virtual Ethics: PR: COP 3502C or DIG 2000 or C.I. Ethics of virtual worlds as contrasted to the physical world, the use of simulation, virtual environments, and modeling in philosophy, especially in ethics. *Occasional*.

PHI 3626 CAH-PHIL 3(3,0)
Advanced Ethics in Science and Technology: PR: COP 3502C or DIG 2000 or PHI 2647. Critical thinking applied to ethics in science and technology. *Fall, Spring*.

PHI 3629 CAH-PHIL 3(3,0)
Family Values: PR: PHI 2010, PHI 2630, PHI 3670, or WST 3015. Applied ethics examining legal, religious and other cultural prescriptions related to sexuality, marriage, reproduction, child-rearing and other forms of familial relationship and caregiving. *Even Spring*.

PHI 3638 CAH-PHIL 3(3,0)
Ethical Issues in the 21st Century: PR: PHI 2010 or C.I. Applications of ethical theory and moral problem-solving to contemporary issues. *Occasional*.

PHI 3640 CAH-PHIL 3(3,0)
Environmental Ethics: PR: Junior standing. Major contemporary views in environmental ethics, including individual and holistic approaches, deep ecology, ecofeminism, and social ecology. *Occasional*.

PHI 3670 CAH-PHIL 3(3,0)
Ethical Theory: PR: Junior standing and C.I. Major classical and contemporary topics in ethics, including value theory, utilitarian, deontological, virtue-based and feminist approaches to ethics, rights, and justice; some examination of metaethical issues. *Even Spring*.

PHI 3672 CAH-PHIL 3(3,0)
Animal Ethics: PR: PHI 2010 or C.I. Key issues and debates in the area of animal ethics, including both theoretical and applied dimensions. *Occasional*.

PHI 3684 CAH-PHIL 3(3,0)
Ways of Living: PR: HUM 2210 or HUM 2230 or C.I. Philosophies of life and the notion of "the good life." *Occasional*.

PHI 3700 CAH-PHIL 3(3,0)
Philosophy of Religion: PR: REL 2300 or PHI 2010. An examination of basic ideas, beliefs, attitudes, and functions of religion, with emphasis upon questions of conceptual meaning and cognitive justification. *Odd Spring*.

PHI 3720 CAH-PHIL 3(3,0)
Faith and Reason: PR: REL 2300 or PHI 2010 or C.I. Emergence of two discrete ways of knowing: Faith and Reason. *Occasional*.

PHI 3750 CAH-PHIL 3(3,0)
The Problem of Evil: PR: PHI 2010 or C.I. The traditional problem of evil encompassing philosophical, theological, logical, and natural interpretations and assessments of moral and natural evil. *Occasional*.

PHI 3790 CAH-PHIL 3(3,0)
African Philosophy: PR: Junior standing or C.I. Traditional and contemporary African philosophical thought with primary emphasis on post-colonial philosophy in sub-Saharan Africa. *Occasional*.

PHI 3800 CAH-PHIL 3(3,0)
Aesthetics: PR: PHI 2010, HUM 2230, ARH 2050, or ARH 2051. An investigation into the nature of human artistic experience, with special reference to questions of form, perception, and style. *Occasional*.

PHI 3803 CAH-PHIL 3(3,0)
Philosophy and Creativity: PR: Junior standing or PHI 2010 or C.I. A companion course to PHI 3800. Aesthetics. Examines the empirical and metaphysical claims made for creativity; attempts to account for intuition, genius, and intelligence. *Occasional*.

PHI 3805 CAH-PHIL 3(3,0)
Contemporary Aesthetics: PR: PHI 2010, HUM 2210, HUM 2230, ARH 2050 or ARH 2051. Contemporary themes and arguments about visual art in relationship to current aesthetic theories. *Occasional*.

PHI 4221 CAH-PHIL 3(3,0)
Philosophy of Language: PR: PHI 2010 or C.I. Nature of language and the relationships between language, reality, cognition, and culture. *Spring*.

PHI 4300 CAH-PHIL 3(3,0)
Theories of Knowledge: PR: Philosophy major or C.I. Classical and contemporary theories of knowledge. A critical examination of various forms of, and reasons for, skepticism, criteria for truth and justification for belief. *Occasional*.

PHI 4321 CAH-PHIL 3(3,0)
Philosophies of Embodiment: Mind/Body/Self: PR: Junior standing and either PHI 2010, PHI 2011, PHI 2108, or C.I. Different ways of understanding relations between mind, body, and nature. Self-knowledge as articulated by western and non-western philosophies from ancient to contemporary times. *Occasional*.

PHI 4341 CAH-PHIL 3(3,0)
Ways of Knowing: PR: PHI 2010 or C.I. Philosophical study of approaches to knowledge, with emphasis on contributions of the knower to how things are known. *Fall*.

PHI 4400 CAH-PHIL 3(3,0)
Philosophy of Science: PR: Junior standing or PHI 2010 or C.I. An examination of the conceptual foundations and methodology of modern science. *Occasional*.

PHI 4420 CAH-PHIL 3(3,0)
Philosophy of Social Science: PR: Junior standing or PHI 2010 or C.I. An examination of the objectives, methods and guiding norms of the social sciences and their role in the development of human knowledge. *Occasional*.

PHI 4500 CAH-PHIL 3(3,0)
Metaphysics: PR: Philosophy major or C.I. Topics include appearance and reality, actions and events, necessity and possibility, identity, nature of persons, mind-body dualism, causality, and free will and determinism. *Occasional*.

PHI 4633 CAH-PHIL 3(3,0)
Ethics and Biological Science: PR: Completion of the GEP. An application of contemporary thinking to ethical issues arising from the biological sciences, including human and animal experimentation, genetic engineering, biodiversity. *Occasional*.

PHI 4633H CAH-PHIL 3(3,0)
Honors Ethics and Biological Science: PR: BSC 2010C, a course in Philosophy, and consent of Honors. Contemporary thinking on ethical issues arising from the biological sciences, including human and animal experiments, genetic engineering, and biodiversity. *Occasional*.

PHI 4673 CAH-PHIL 3(3,0)
Medical Ethics: PR: Senior standing or C.I. Ethics of clinical medicine and medical research. *Spring*.

PHI 4690 CAH-PHIL 3(3,0)
Ethics in Nanoscience and Nanotechnology: PR: Completion of GEP or Junior standing. Ethical implications of rapid developments in nanoscience and nanotechnology. *Odd Fall*.

PHI 4804 CAH-PHIL 3(3,0)
Critical Theory: PR: C.I. Critical theory and cultural studies emphasizing current trends as they apply to arts in diverse media. *Even Fall*.

PHI 4931 CAH-PHIL 3(3,0)
Philosophy in the News: PR: PHI 2010. Changing course content. A specific topic being covered by the media will be selected for philosophical examination. Course is web enhanced. *Occasional*.

PHI 4935 CAH-PHIL 3(3,0)
Topics in Philosophy of Mind: PR: PHI 3320, PHI 3451 or PHI 3323 or C.I. Recent debate in philosophy of mind. Variable topics. Examples: mental representation, consciousness, concepts, free will. May be repeated for credit. *Occasional*.

PHI 4938 CAH-PHIL 3(3,0)
Senior Research Seminar: PR: Senior standing and Philosophy major, or C.I. Capstone course on research, developing effective oral and written communication skills. *Spring*.

PHI 5225 CAH-PHIL 3(3,0)
Philosophy of Language: PR: Admission to graduate certificate in Cognitive Sciences or C.I. Philosophy of the nature of language and relationships between language, reality, cognition, and culture. *Occasional*.

PHI 5325 CAH-PHIL 3(3,0)
Topics in Philosophy of Mind: PR: Admission into graduate certificate program in Cognitive Sciences or C.I. Contemporary issues in philosophy of mind, including explanatory gap, and the problem of other minds. *Occasional*.

UCF Courses and Descriptions

PHI 5327 CAH-PHIL 3(3,0)
Topics in the Cognitive Sciences: PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Theoretical issues and empirical studies in the cognitive sciences, including contemporary discussions of mind, brain, artificial intelligence, pathologies, behavioral capacities. *Fall*.

PHI 5328 CAH-PHIL 3(3,0)
Philosophies of Embodiment: PR: Admission to graduate certificate in Cognitive Sciences or C.I. Relations among mind, body, and nature. Knowledge of self, world and others as articulated by Western philosophy, with special emphasis on embodied cognition. *Occasional*.

PHI 5329 CAH-PHIL 3(3,0)
Philosophy of Neuroscience: PR: Admission to graduate certificate in Cognitive Sciences or C.I. Neurophilosophy, including discussion of promises and limitations of neuroscience for understanding of the mind. *Occasional*.

PHI 5340 CAH-PHIL 3(3,0)
Research Methods in the Cognitive Sciences: PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Interdisciplinary research methods in the cognitive sciences. *Spring*.

PHI 5627 CAH-PHIL 3(3,0)
Theoretical and Applied Ethics: PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, or graduate standing or C.I. A seminar in theoretical and applied ethics with emphasis on application in professional fields. Variable content. *Fall*.

PHI 5634 CAH-PHIL 3(3,0)
Medical Ethics: PR: Graduate standing or C.I. Ethics for practitioners of clinical medicine, health care delivery and medical research. *Fall*.

PHI 5665 CAH-PHIL 3(3,0)
Knowledge, Responsibility, and Society: PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, PHI 4300, PHI 4341, PHI 4400, PHI 4633, PHI 4931 or Graduate standing. A seminar exploring the relationship between ethics and epistemology with application to social concerns. Variable content. *Occasional*.

PHI 5687 CAH-PHIL 3(3,0)
Ethics in Science and Technology: PR: Graduate standing or C.I. The relationship between ethics and the pursuit and application of human knowledge, emphasizing the responsibility of scientists to society. *Occasional*.

PHM 3020 CAH-PHIL 3(3,0)
Philosophy of Love: PR: Junior standing and PHI 2010, or C.I. A critical investigation of the meaning and significance of various kinds of love from a variety of philosophical perspectives. *Spring*.

PHM 3022 CAH-PHIL 3(3,0)
Sexuality, Gender & Philosophy: PR: WST 3015, PHI 2010, PHM 3123, or C.I. Examines the contributions of poststructuralist and neopsychoanalytical theories to cultural issues in sexuality and gender. *Even Spring*.

PHM 3100 CAH-PHIL 3(3,0)
Freedom and Justice: PR: Junior standing or PHI 2010 or C.I. Philosophical analysis and evaluation of selected issues arising from the interaction of the individual, society, and the state; includes topics such as freedom, equality, and justice. *Occasional*.

PHM 3123 CAH-PHIL 3(3,0)
Feminist Theories: PR: ENC 1102. Contemporary issues and perspectives in feminist theory and their relation to divergent feminist practices. *Even Fall*.

PHM 3401 CAH-PHIL 3(3,0)
Philosophy of Law: PR: PHI 2010, PHI 2630, PHI 3670, or POS 2041. Study of the nature of, and justifications for, law and punishment. Examination of the concepts of legal personhood, rights and responsibilities. *Spring*.

PHM 4031 CAH-PHIL 3(3,0)
Environmental Philosophy: PR: PHI 3640, PHI 2630, or C.I. Major contemporary positions in environmental philosophy, including deep ecology, ecofeminism, and social ecology. *Occasional*.

PHM 5035 CAH-PHIL 3(3,0)
Environmental Philosophy: PR: PHI 3640, PHI 2630, graduate status or senior standing, or C.I. This course will provide an in-depth examination of the major contemporary positions in environmental philosophy, including deep ecology, ecofeminism, and social ecology. *Occasional*.

PHP 3781 CAH-PHIL 3(3,0)
African-American Philosophy: PR: PHI 2010. Analysis of contemporary African-American philosophy and overview of Black philosophy from slavery era writings to the present. *Occasional*.

PHP 3783 CAH-PHIL 3(3,0)
Modernity as a Philosophical Problem: PR: PHI 2010 or PHI 3640 or C.I. Modernity in the philosophies of Kant, Hegel, Nietzsche, Heidegger, Derrida, Rorty, and others. *Occasional*.

PHP 3786 CAH-PHIL 3(3,0)
Existentialism: PR: Junior standing or PHI 2010 or C.I. Study of existentialist analysis and criticism of the human situation as found in the writings of such philosophers as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus. *Odd Fall*.

PHP 4782 CAH-PHIL 3(3,0)
Phenomenology: PR: Junior standing and three Philosophy courses. The philosophy developed in the 20th century in the writings of Husserl, Heidegger, Sartre, Merleau-Ponty, De Beauvoir and Derrida. *Odd Spring*.

PHP 4931 CAH-PHIL 3(3,0)
Key Figures in Philosophy: PR: PHI 2010 or C.I. Study of a central figure in philosophy's work, influences, reception and effect. May be repeated for credit only when course content is different. *Occasional*.

PHP 4933 CAH-PHIL 3(3,0)
Key Concepts in Philosophy: PR: PHI 2010 or C.I. Study of the development, meaning, and implications of a central concept in Philosophy. May be repeated for credit only when course content is different. *Occasional*.

PHT 3069 HPA-HP 1(1,0)
Physical Assessment: CR: PHT 3069L. Extensive theory and practice in the examination of the patient. Incorporates a systems approach, utilizing screening and patient problem solving. *Occasional*.

PHT 3069L HPA-HP 2(0,4)
Physical Assessment Lab: PR: PHT 3069. Lab course emphasizing the examinations required to perform an evaluation of a physical therapy patient. *Occasional*.

PHT 3112 HPA-HP 2(2,0)
Gross Anatomy/Neuroscience I: PR: Admission into the Physical Therapy program. CR: PHT 3112L. In-depth study of human morphology emphasizing the back, spinal cord, cranial nerves, and upper lower extremities. Regional cadaver dissection. *Occasional*.

PHT 3112L HPA-HP 3(0,6)
Gross Anatomy/Neuroscience I Lab: CR: PHT 3112. Human cadaver dissection of the back, spinal cord, cranial nerves, and upper and lower extremities. *Occasional*.

PHT 3113 HPA-HP 2(2,0)
Gross Anatomy/Neuroscience II: PR: PHT 3112; PHT 3112L. CR: PHT 3113L. In-depth study of human morphology emphasizing the brain, the cervical spine, pelvis, and the internal organs. *Occasional*.

PHT 3113L HPA-HP 3(0,6)
Gross Anatomy/Neuroscience II Lab: CR: PHT 3113. Directed laboratory experiences with cadaver dissection; use of the skeleton, models, and computer programs to facilitate learning. *Occasional*.

PHT 3122 HPA-HP 3(3,0)
Clinical Kinesiology: CR: PHT 3122L. Mechanical aspects of human movement, including joint mechanics of the upper and lower extremity, the vertebral column, and tissue mechanics of relevant human tissues. Coordinated with cadaver dissection. *Occasional*.

PHT 3122L HPA-HP 3(0,6)
Clinical Kinesiology Lab: CR: PHT 3122. Lab course investigating the mechanical aspects of human movement. *Occasional*.

PHT 3155 HPA-HP 2(2,0)
Physiology of Therapeutic Exercise: PR: PHT 3259. CR: PHT 3155L. Exercise physiology investigating the physiological responses and adaptations to human movement including cardiovascular and pulmonary systems. *Occasional*.

PHT 3155L HPA-HP 2(0,4)
Physiology of Therapeutic Exercise Lab: CR: PHT 3155. Lab course emphasizing the clinical application of exercise physiology. *Occasional*.

PHT 3259 HPA-HP 2(2,0)
Patient Care Skills: CR: PHT 3259. Affective, cognitive, and psychomotor skills applied to patient care. Diversity issues discussed. Basic skills of patient care; transfers, mobility skills, draping, gait training. *Occasional*.

PHT 4222 HPA-HP 2(2,0)
Therapeutic Exercise I: PR: PHT 3155; PHT 3155L. CR: PHT 4222L. Theory of developing, implementing, and evaluating a therapeutic exercise program for patients with musculoskeletal dysfunction. *Occasional*.

PHT 4222L HPA-HP 1(0,2)
Therapeutic Exercise I Lab: CR: PHT 4222. Lab course emphasizing therapeutic exercise skills for the treatment of patients with musculoskeletal dysfunction. *Occasional*.

PHT 4230 HPA-HP 2(2,0)
Therapeutic Exercise II: PR: PHT 4222; PHT 4222L. CR: PHT 4230L. Exploration of the various therapeutic exercise modalities, and their application to the rehabilitation course treatment. *Occasional*.

PHT 4230L HPA-HP 1(0,2)
Therapeutic Exercise II Lab: CR: PHT 4230. Lab course emphasizing use of various therapeutic exercise modalities. *Occasional*.

PHT 5003 HPA-HP 2(2,0)
Foundations of Physical Therapy: PR: Admission to the Physical Therapy program. Introduction to the profession of physical therapy. *Occasional*.

PHT 5125 HPA-HP 2(2,0)
Clinical Kinesiology: CR: PHT 5125L. Investigates the mechanical aspects of human movement, joint mechanics of the upper and lower extremity, the vertebral column and tissue mechanics of relevant human tissues. *Occasional*.

PHT 5125L HPA-HP 2(0,4)
Clinical Kinesiology Lab: CR: PHT 5125. Graduate level study of human musculoskeletal movement with an emphasis on joint mechanics and clinical applications. *Occasional*. M&S fee \$35.00

PHT 5218 HPA-HP 2(2,0)
Theories and Procedures I: CR: Theories and Procedures I Lab. Theories of physical agents, heat, light, cold, water, sound, and massage; problem solving rationale and selection of interventions for inflammation, pain, edema, and weakness. *Spring*.

PHT 5218L HPA-HP 1(0,2)
Theories and Procedures I lab: CR: Theories and Procedures I. Lab course on the clinical applications of heat, light, cold, water, sound, and massage. *Spring*. M&S fee \$30.00

PHT 5240 HPA-HP 1(1,0)
Physical Assessment: PR: Physical Assessment Lab. Extensive theory and practice in the examination of the patient. Incorporate a systems approach, utilizing screening, and patient problem solving. *Fall*.

PHT 5240L HPA-HP 2(0,4)
Physical Assessment Lab: CR: Physical Assessment. Lab course emphasizing the examinations required to perform an evaluation of physical therapy patient. *Fall*. M&S fee \$45.00

PHT 5241 HPA-HP 2(2,0)
Therapeutic Exercises I: CR: Therapeutic Exercises I Lab. Theory of developing, implementing, and evaluating a therapeutic exercise program for patients with musculoskeletal dysfunction. *Spring*.

PHT 5241L HPA-HP 2(0,4)
Therapeutic Exercise Lab I: PR: Therapeutic Exercise I. Lab course emphasizing therapeutic exercise skills for the treatment of patients with musculoskeletal dysfunction. *Spring*. M&S fee \$20.00

PHT 5260 HPA-HP 2(2,0)
Patient Care Skills: CR: Patient Care Skills Lab. Affective, cognitive, and psychomotor skills, regarding patient care. Basic skills of patient care, transfers, mobility skills, draping, gait training. *Fall*.

PHT 5260L HPA-HP 1(0,2)
Patient Care Skills Lab: CR: Patient Care Skills. Skills of patient care, transfers, mobility skills. *Fall*. M&S fee \$30.00

PHT 5718 HPA-HP 2(2,0)
Neurological Physical Therapy: CR: Neurological Physical Therapy Lab. Analysis of selected neuromotor theories and their clinical applications. Examinations and interventions for the evaluation and treatment of neurological patients presented. *Occasional*.

PHT 5718L HPA-HP 1(0,2)
Neurological Physical Therapy Lab: CR: Neurological Physical Therapy. Lab Course emphasizing the clinical application of selected neuromotor theories. *Occasional*. M&S fee \$30.00

PHY 1038 COS-PHYS 3(3,0)
Physics of Energy, Climate Change and Environment: PR: None. Basic principles of physics, under the unifying theme of the production and use of energy and its interaction with the climate system and global environment. *Spring*.

PHY 2020 COS-PHYS 3(3,0)
Concepts of Physics: An introductory course in physics designed for non-science majors, emphasizing topics relevant to everyday life. The course focuses on major physical discoveries and their implications for the world around us. *Fall*.

PHY 2048C COS-PHYS 4(3,3)
General Physics Using Calculus I: PR: MAC 2311C (or equivalent) with grade "C" (2.0) or better. Mechanics, Thermodynamics, fluids. *Fall, Spring*. M&S fee \$15.00

PHY 2048C COS-PHYS 4(3,3)
Honors General Physics Using Calculus I: PR: MAC 2311C (or equivalent) with grade "C" (2.0) or better, and permission of Honors. Same as PHY 2048C with honors-level content. *Fall, Spring*.

PHY 2049C COS-PHYS 4(3,3)
Honors General Physics Using Calculus II: PR: MAC 2312 and PHY 2048C with grades "C" (2.0) or better, and permission of Honors. Same as PHY 2049C with honors-level content. *Fall, Spring*.

PHY 2049C COS-PHYS 4(3,3)
General Physics Using Calculus II: PR: MAC 2312 and PHY 2048C with grades "C" (2.0) or better. Electricity, magnetism, optics. *Fall, Spring*. M&S fee \$15.00

PHY 2053C COS-PHYS 4(3,3)
College Physics I: PR: MAC 1105C and MAC 1114C or equivalent or C.I. Mechanics, waves, thermodynamics. *Fall, Spring*. M&S fee \$14.00

PHY 2053C COS-PHYS 4(3,3)
Honors College Physics I: PR: MAC 1105C and MAC 1114C or C.I. and consent of Honors. Mechanics, waves, thermodynamics. With Honors content. *Fall*.

PHY 2054C COS-PHYS 4(3,3)
Honors College Physics II: PR: PHY 2053C and consent of Honors. Fluids, electricity, and magnetism, optics, x-rays, radioactivity. With Honors content. *Spring*.

PHY 2054C COS-PHYS 4(3,3)
College Physics II: PR: PHY 2053C. Fluids, electricity and magnetism, optics, x-rays, radioactivity. *Fall, Spring*. M&S fee \$15.00

PHY 3101 COS-PHYS 3(3,0)
General Physics Using Calculus III: PR: MAC 2313, and PHY 2049C or PHY 2054. Thermodynamics, oscillations, modern physics. *Fall, Spring*.

PHY 3101H COS-PHYS 3(3,0)
Honors General Physics Using Calculus III: PR: PHY 2049C, MAC 2313, and consent of Honors. Same as PHY 3101 with honors-level content. *Fall, Spring*.

PHY 3220 COS-PHYS 3(3,0)
Mechanics I: PR: PHY 2048C or PHY 2048H, MAP 2302. Particle dynamics, rigid bodies, Lagrangian formulation of mechanics, Hamilton's equations. *Spring*.

PHY 3323 COS-PHYS 3(3,0)
Electricity and Magnetism I: PR: PHY 2049C, MAP 2302. Electrostatics, magnetostatics, Lorentz force current electricity, Maxwell's equations. *Fall*.

PHY 3513 COS-PHYS 3(3,0)
Thermal and Statistical Physics: PR: PHY 3101 or PHY 3101H or C.I. Thermodynamics, kinetic theory, elements of statistical mechanics. *Fall*.

PHY 3722C COS-PHYS 3(1,5)
Physics Laboratory-Electronics: PR: PHY 2049C. State-of-the-art electronics, transducers, operational amplifiers, phase sensitive circuits, active filters. *Occasional*. M&S fee \$20.00

PHY 3752C COS-PHYS 3(1,5)
Physics of Scientific Instruments: PR: PHY 3101 or C.I. Applications, functions and operation of electronic instruments. *Occasional*. M&S fee \$28.00

PHY 3802L COS-PHYS 3(1,5)
Intermediate Physics Laboratory: PR: PHY 3101 or C.I. Laboratory work in basic measurements of physical constants; experiments in electronics, modern physics, nuclear physics, optics, and solid state physics. May be repeated for credit. *Fall*.

PHY 3920 COS-PHYS 1(1,0)
Frontiers in Physics Research: Colloquia and Public Talks: PR: PHY 3101 or C.I. Presentations of current research and major advances in physics. Graded S/U. May be used in the degree program a maximum of 3 times. *Fall, Spring*.

PHY 3945 COS-PHYS 1(2,0)
Physics Pedagogy Seminar: PR: PHY 2048C or PHY 2053C. Designed for students serving as Learning Assistants in the physics department and will help LAs to integrate educational theory, pedagogy and practice. Graded S/U. May be used in the degree program a maximum of 2 times. *Occasional*.

PHY 4012 COS-PHYS 3(3,0)
Teaching Introductory Physics: PR: PHY 3101 or C.I. Students build specialized matter required for teaching introductory physics by reviewing variety of physics concepts integrated with coherent teaching methods. *Odd Spring*.

PHY 4254 COS-PHYS 3(3,0)
Physics of Fluids and Biofluids: PR: PHY 3513, PHY 3323, and MAP 2302, or C.I. Ideal fluids; basic equation of fluid flow; viscous flow, instability and turbulence; thermal and mass transfers in fluids; biofluid mechanics of blood circulation. *Even Spring*.

PHY 4324 COS-PHYS 3(3,0)
Electricity and Magnetism II: PR: PHY 3323. Dielectrics, magnetic materials, electromagnetic waves, reflection, complex impedance, static solutions to Laplace's Equation, radiation from an accelerated charge and antennae, special relativity. *Spring*.

PHY 4424 COS-PHYS 3(3,0)
Optics: PR: PHY 3101 and PHY 3323. Wave optics, absorption, stimulated emission, lasers, transforms, coherence, holography. *Occasional*.

PHY 4445 COS-PHYS 3(3,0)
Lasers: PR: PHY 3101, MAP 2302, PHY 4424, or C.I. Principles of laser gain media, properties of resonators and modes, and description of specific laser systems. *Occasional*.

PHY 4604 COS-PHYS 3(3,0)
Wave Mechanics I: PR: PHY 3113. Postulates of Quantum Mechanics. Operators and Observables, Schrodinger equation with simple applications. *Fall*.

PHY 4605 COS-PHYS 3(3,0)
Wave Mechanics II: PR: PHY 4604. Further applications of quantum mechanics, perturbation theory, scattering theory, identical particles. *Spring*.

PHY 4803L COS-PHYS 3(1,5)
Advanced Physics Laboratory: PR: PHY 3802L. Experiments in optics, electronics, nuclear and solid state physics. Emphasis on design, data, and scientific writing. *Occasional*. M&S fee \$20.00

PHY 5015C COS-PHYS 3(2,2)
Physics for Teachers II: PR: Graduate status or senior standing or C.I. "Hands-on" lecture-laboratory course. Dynamics, electricity, magnetism, optics, nuclear radiation. *Occasional*.

PHY 5140C COS-PHYS 3(3,2)
Ion-Solid Interactions: PR: PHY 4604 or PHY 4324, graduate status or senior standing, or C.I. Physical principals and related scientific and technological applications of ion-solid interactions. *Occasional*.

PHY 5255 COS-PHYS 3(3,0)
Physics of Fluids and Biofluids: PR: PHY 3513, PHY 3323, and MAP 2302 or C.I. Ideal Fluids; Basic equation of fluid flow; Viscous flow, instability and turbulence; Thermal and mass transfers in fluids, biofluid mechanics of blood circulation. *Even Spring*.

PHY 5346 COS-PHYS 3(3,0)
Electrodynamics I: PR: PHY 4324, and graduate status or senior standing or C.I. Boundary value problems in electrostatics and magnetostatics. Maxwell's equations. EM fields in matter, wave generation and propagation; wave guides, resonant cavities. *Fall*.

PHY 5455 COS-PHYS 3(3,0)
Modern X-ray Science: PR: Graduate status or senior standing or C.I. An introduction to the science and applications of modern X-ray optics, X-ray lasers, etc., with a review of basic properties of X-rays. *Occasional*.

PHY 5524 COS-PHYS 3(3,0)
Statistical Physics: PR: PHY 3513, STA 3032, and graduate status or senior standing or C.I. A study of physical concepts and methods appropriate for the description of systems involving many particles. Ensemble theory, partition functions. Maxwell Boltzmann, Bose-Einstein, Fermi-Dirac statistics. *Spring*.

PHY 5606 COS-PHYS 3(3,0)
Quantum Mechanics I: PR: PHY 4605, and graduate status or senior standing or C.I. Basic postulates of quantum mechanics, operators, eigenvalues, parity, potential wells, harmonic oscillator, time dependent and time independent Schrodinger equation, matrix formulation, and time independent perturbation theory. *Fall*.

PHY 5650 COS-PHYS 3(3,0)
Introduction to Quantum Computation: PR: C.I. Theoretical fundamentals and physical implementations of quantum computation for science and engineering students. *Occasional*.

PHY 5704 COS-PHYS 3(3,0)
Physics of Nanoelectronics Devices: PR: Graduate standing or C.I. Fabrication techniques of nanoscale electronic devices and understanding of their charge transport properties. *Odd Fall*.

PHY 5705 COS-PHYS 1(1,0)
Physics of Graphene and Carbon Nanotubes: PR: PHY 4404 or equivalent, or C.I. Advanced topics in carbon nanotubes and graphene sheets by presentation and discussion of current literature. *Odd Fall*.

PHY 5715 COS-PHYS 3(3,0)
Physical Basis of Life: PR: Graduate standing or C.I. Molecular and physical principles of origin of life, physical and chemical interpretation of life processes. *Fall*.

PHY 5817L COS-PHYS 1(0,3)
Building Physics Apparatus: PR: Graduate standing or senior standing and C.I. Hands-on shop course. Focus will be machine shop practice with possible extension to printed circuit boards and glass work. *Occasional*. M&S fee \$45.00

UCF Courses and Descriptions

PHY 5846C COS-PHYS 3(3,3)
Methods of Experimental Physics: PR: Graduate status or senior standing or C.I. Introduction to methods of experimental physics, including instrumental design, data acquisition, vacuum, cryogenics, sample preparation, nuclear physics, transport, and spectroscopy. *Fall*.

PHY 5933 COS-PHYS 3(3,0)
Selected topics in biophysics of macromolecules: PR: PHY 3101, CHM 2046, and graduate status or senior standing or C.I. Physical concepts and techniques used in the spectroscopic study of dynamic structure and function of biological macromolecules such as proteins; Connections with other complex systems. May be repeated for credit. *Occasional*.

PHZ 3113 COS-PHYS 3(3,0)
Introduction to Theoretical Methods of Physics: PR: MAP 2302. Analytical techniques to solve problems of physics. *Spring*.

PHZ 3151 COS-PHYS 3(3,0)
Computer Methods in Physics: PR: PHY 3101. Non-analytical problems in physics and astronomy solved by approximation with computer assistance. *Occasional*.

PHZ 3422 COS-PHYS 3(3,0)
Nanophysics: PR: PHY 3101 or C.I. Physical phenomena occurring in nanometer-length scale, including nano colloids, and nano transport. *Occasional*.

PHZ 3462 COS-PHYS 3(3,0)
Nanoscience I: The Science and Societal Impacts: PR: PHY 2049C or PHY 2054C, and CHM 2046C, and COP 3223C. Provides a broad view of nanoscience and the basic theoretical principles behind it, with special focus on fundamental properties and implications to society. *Fall*.

PHZ 3464 COS-PHYS 3(3,0)
Nanoscience II: Technological Applications: PR: PHY 2049C or PHY 2054C, and CHM 2046C, and COP 3223C. Provides a comprehensive summary of the most relevant experimental advances in nanoscience and their applications in current technologies as well as their potential for future emerging technologies. *Spring*.

PHZ 3466 COS-PHYS 3(3,0)
Nanoscience III: A Virtual Laboratory: PR: PHY 2049C or PHY 2054C, and CHM 2046C, and COP 3223C. The computational aspects of nanoscience. Students will model the nano-world using simulation software. *Fall*.

PHZ 3601 COS-PHYS 3(3,0)
Einstein's Theory of Relativity: PR: PHY 2049. Einstein's special theory of relativity. Introduction to general relativity. *Occasional*.

PHZ 4041 COS-PHYS 3(3,0)
Attosecond Laser Physics: PR: PHY 3323 or PHY 5346 or C.I. Coverage of the basic underlying theory through complex concepts of attosecond optics. *Occasional*.

PHZ 4390 COS-PHYS 3(3,0)
Nuclear and Particle Physics: PR: PHY 4605 or C.I. The properties of the nuclei and the fundamental particles and how the universe is built from particles. *Occasional*.

PHZ 4404 COS-PHYS 3(3,0)
Solid State Physics: PR: PHY 3101 or C.I. Atomic binding, crystalline structure, diffraction and reciprocal lattice, lattice vibration, phonons, electrons in solids, energy bands, semiconductors. *Occasional*.

PHZ 4434 COS-PHYS 3(3,0)
Nanoscale Surface Physics: PR: PHY 3101 or C.I. Physical and chemical properties of nanoscale surfaces. *Even Fall*.

PHZ 5045 COS-PHYS 3(3,0)
Attosecond Laser Physics: PR: PHY 5606, PHY 5346 or PHY 4324, or C.I. Technique for generating attosecond optical pulses using both semi-classical models and quantum mechanics theories. Illustrative examples of attosecond applications. *Odd Spring*.

PHZ 5156 COS-PHYS 3(3,0)
Computational Physics: PR: PHZ 3151 or C.I. Computational methods applied to the solution of problems in many branches of physics. May be repeated for credit. *Fall*.

PHZ 5304 COS-PHYS 3(3,0)
Nuclear and Particle Physics: PR: PHY 4604 or equivalent, and graduate status or senior standing or C.I. Particles and nuclei, symmetries and conservation laws, interactions, models. *Occasional*.

PHZ 5405 COS-PHYS 3(3,0)
Condensed Matter Physics: PR: PHY 4604, PHY 3101, and graduate status or senior standing or C.I. Crystal lattice cell structure, phonons, free electron model, band theory of solids, Fermi surface, solid state applications, and polymers. *Occasional*.

PHZ 5425C COS-PHYS 3(3,3)
Electron Solid Interactions: PR: Undergraduate senior or graduate status or C.I. The physics and applications of electron interactions with solids. Classroom and hands-on laboratory content. *Occasional*.

PHZ 5432 COS-PHYS 3(3,0)
Introduction to Soft Condensed Matter Physics: PR: PHY 3513 or C.I. Introduction to the physics of polymers, colloids, surfactants using basic tools of statistical mechanics. *Occasional*.

PHZ 5437 COS-PHYS 3(3,0)
Nanoscale Surface Physics: PR: Undergraduate Quantum Mechanics at the level of PHY 4604 or C.I. Overview of physical and chemical properties of nanoscale surfaces. *Occasional*.

PHZ 5445 COS-PHYS 3(3,0)
Nanofabrication using Focused Ion Beam: PR: Graduate standing or C.I. Basic theory of ion-solid interaction; fundamental principle of focused ion beam instrument and its applications in nanofabrication; other ion beam techniques. *Odd Spring*.

PHZ 5505 COS-PHYS 3(3,0)
Plasma Physics: PR: PHY 4324, and graduate status or senior standing or C.I. Introduction to theory and experimental basis of both weakly and highly ionized plasmas. Instabilities, plasma waves, nonlinear effects, controlled thermonuclear fusion. *Occasional*.

PHZ 5625 COS-PHYS 3(3,0)
General Relativity: PR: Graduate standing or C.I. Introduction to Einstein's theory of gravitation. *Odd Spring*.

PLA 3014 HPA-LS 3(3,0)
Law and the Legal System: PR: ENC 1102. A survey course designed to familiarize the student with the American legal system, ethical considerations, terminology, legal reasoning, and the role of the legal assistant. *Fall, Spring*.

PLA 3108 HPA-LS 3(3,0)
Legal Research: PR: or CR: PLA 3014, or C.I. A study of the various research tools used in legal investigation and the methods used to conduct legal research. *Fall, Spring*.

PLA 3155 HPA-LS 3(3,0)
Legal Writing: PR: PLA 3108. A study of legal writing format and technique and the preparation of memoranda and other legal documents, using research skills learned in PLA 3108. *Fall, Spring*.

PLA 3205 HPA-LS 3(3,0)
Civil Practice and Procedure: PR: or CR: PLA 3014 or C.I. The student becomes familiar with the Florida civil procedure before trial and acquires the ability to prepare basic pleadings. *Fall, Spring*.

PLA 3277 HPA-LS 3(3,0)
The Law of Torts: PR: or CR: PLA 3014 or C.I. Theories governing liability for civil injuries not arising from contractual obligations; systems and procedures used in preparation, trial and appeal of torts cases. *Fall, Spring*.

PLA 3306 HPA-LS 3(3,0)
Criminal Law: PR: ENC 1102 and Sophomore standing. Basic concepts of substantive criminal law. The course includes examination of elements of major crimes, criminal responsibility, legal defenses, and parties to crime. *Fall, Spring*.

PLA 3309 HPA-LS 3(3,0)
Criminal Procedure: PR: ENC 1102 and Sophomore Standing. Rules of criminal procedure, with emphasis on Florida rules, including right to counsel, bail, search and seizure, arrest, identification, trial, and post-trial proceedings. *Fall, Spring*.

PLA 3615 HPA-LS 3(3,0)
Property and Real Estate Law: PR: or CR: PLA 3014 or C.I. Study of the law of real and personal property; real estate transactions and conveyances; closing procedures and title problems. *Fall, Spring*.

PLA 3871 HPA-LS 3(3,0)
Law and Technology: Drones and Artificial Intelligence: PR: PLA 3014, or C.I. This course prepares students to critically analyze the law as a driver and inhibitor of technology by examining innovations in automated and unmanned aircraft. *Fall, Spring*.

PLA 3951H HPA-LS 3(3,0)
Honors Moot Court: PR: Junior Standing and Consent of Honors, and C.I. Interdisciplinary course on selective principles of Constitutional Law, focusing on persuasive writing, oral advocacy, public speaking, and analytical skills through UCF's appellate advocacy/moot court tournament. *Fall*.

PLA 4020 HPA-LS 3(3,0)
Law and Society: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. Examination of the relationship between law and American society including the impact on the legal system and legal profession of major social movements. *Occasional*.

PLA 4022 HPA-LS 3(3,0)
Contemporary Issues in Law: PR: ENC 1102 and Junior Standing. Examine and analyze contemporary legal issues and interplay between state and federal law applications. Topics track current social legal issues. May be used in the degree program a maximum of 2 times only when course content is different. *Occasional*.

PLA 4226 HPA-LS 3(3,0)
Advanced Trial Advocacy: PR: (PLA 4910 and Junior Standing) or C.I. Litigation and trials at an advanced level; students must handle a trial from beginning to end. May be repeated for credit. *Fall, Spring*.

PLA 4240 HPA-LS 3(3,0)
Negotiation Alternatives in Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Theories and skills involved in negotiation, mediation and other dispute resolutions processes. *Occasional*.

PLA 4263 HPA-LS 3(3,0)
Evidence: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. An examination of statutes and cases that define rules of evidence for trial courts. Primary emphasis is on the Florida Evidence Code. *Fall, Spring*.

PLA 4410 HPA-LS 3(3,0)
Intellectual Property Law and Practice: PR: PLA 3014 and Junior Standing, or C.I. This course provides a comprehensive understanding of intellectual property law and practice based on the four areas of trademark, copyright, patent and trade secrets. *Fall, Spring*.

PLA 4424 HPA-LS 3(3,0)
The Law of Contracts: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. Study of the basic law of contracts as developed in Anglo-American law and as changed by modern statutes, including the Uniform Commercial Code. Florida contract law will be emphasized. *Fall, Spring*.

PLA 4436 HPA-LS 3(3,0)
Florida Partnerships and Corporations: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. Statutory requirements of Florida partnerships and corporations; creation and dissolution of business organizations; responsibilities of officers and basic rights of stockholders. *Fall, Spring*.

PLA 4464 HPA-LS 3(3,0)
Bankruptcy Law: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. This course will acquaint the student with the substantive law and procedures associated with the rights and obligations of debtors and creditors. *Occasional*.

UCF Courses and Descriptions

PLA 4472 HPA-LS 3(3,0)
Employment Discrimination Law: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. Course will address employment discrimination based on race, gender, religion, national origin, age, disability and sexual orientation. Issues such as workplace harassment will be analyzed. *Occasional.*

PLA 4485 HPA-LS 3(3,0)
Administrative Law: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. The law regarding governmental agencies with emphasis on the administrative process, Administrative Procedures Acts and special problems of state administrative law. *Fall, Spring.*

PLA 4521 HPA-LS 3(3,0)
World Hunger Morality & the Law: PR: Junior Standing and C.I. Examine world hunger as a complex issue of sustainable human development, root causes and consequences of domestic and global hunger, and effect on legal systems. *Spring.*

PLA 4530 HPA-LS 3(3,0)
Legal Issues of the Elderly: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Legal concerns faced by older Americans as they plan their later years and seek to maximize their personal autonomy. *Occasional.*

PLA 4554 HPA-LS 3(3,0)
Environmental Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Environmental law and policy related to the protection of natural resources, including an examination of toxic pollutants, endangered species, and climate change. *Odd Fall, Odd Spring.*

PLA 4583 HPA-LS 3(3,0)
Cyber Law I: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Analysis of copyright, trademark, and patent issues in cyberspace. *Occasional.*

PLA 4607 HPA-LS 3(3,0)
Estates and Trusts: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. A study of wills and trusts, and applicable legal principles of administration of estates through the processes of the Probate Court. *Fall, Spring.*

PLA 4609 HPA-LS 3(3,0)
Estate Administration: PR: (PLA 4607 and Junior standing) or C.I. Study of the laws and procedures applicable to administration of estates. *Occasional.*

PLA 4703 HPA-LS 3(3,0)
Professional Ethics and Liability: PR: or CR: PLA 3014, and PR: Sophomore Standing, or C.I. Ethical responsibilities of professionals, canons of legal ethics, liability for professional malpractice. *Fall, Spring.*

PLA 4734 HPA-LS 3(3,0)
Advanced Legal Applications Computer Software: PR: or CR: PLA 3014, and PR: Junior Standing, or C.I. Course will acquaint students with contemporary computer software applications used to satisfy the demands of today's law firms and law-related fields. *Occasional.*

PLA 4764 HPA-LS 3(3,0)
Law Office Practices: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Organization, operation and management of law office. Interviewing techniques and practical application of work that is done in a law office. *Occasional.*

PLA 4806 HPA-LS 3(3,0)
Domestic Relations Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. An in-depth study of family law focusing on divorce, custody, child support, alimony, adoption and other related matters with an emphasis on Florida law. *Fall, Spring.*

PLA 4813 HPA-LS 3(3,0)
Juvenile Law and Procedure: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Examines both the substantive and procedural law for juvenile delinquency and dependency. Emphasis on Florida law and comparison with other jurisdictions. *Occasional.*

PLA 4823 HPA-LS 3(3,0)
Sports Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Introduction to the legal issues and regulation of sports, focusing on torts, contracts, agency and constitutional law as applied to athletes. *Occasional.*

PLA 4824 HPA-LS 3(3,0)
Legal Issues for Athletic Trainers: PR: ATR 3102 and Athletic Training major. Analysis of the legal issues affecting athletic trainers. *Occasional.*

PLA 4825 HPA-LS 3(3,0)
Entertainment Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Introduction to the control and regulation of the entertainment industry and the associated legal issues. *Occasional.*

PLA 4830 HPA-LS 3(3,0)
World Legal Systems: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. An examination of various legal traditions and systems of the World. Substantive and procedural laws will be examined. *Occasional.*

PLA 4834 HPA-LS 3(3,0)
Study Abroad: US/UK Comparative Law: PR: PLA 3014. The structures of the legal systems of the United States and the United Kingdom. A comparative examination of the institutions, structure and sources of law in the Continental, Common Law and Anglo-American legal systems. *Occasional.*

PLA 4843 HPA-LS 3(3,0)
Immigration Law and Policy: PR: PLA 3014, and Junior standing. Major topics in U.S. immigration law to include the statutory, historical, and procedural foundations of U.S. immigration law and policy. *Fall, Spring.*

PLA 4861 HPA-LS 3(3,0)
Aviation Law: PR: PLA 3014 and Junior standing, or C.I. The law as it applies to aviation and aerospace activities domestically and internationally, including post-9/11 national aviation policy and emerging technologies (drones). *Fall, Spring.*

PLA 4864 HPA-LS 3(3,0)
Admiralty and Maritime Law: PR: or CR: PLA 3014, and PR: Junior standing, or C.I. Admiralty jurisdiction and procedure including contracts for carriage of goods, seaman's contracts and claims, collision and salvage law, and wrongful death. *Occasional.*

PLA 4910 HPA-LS 3(3,0)
Trial Advocacy: PR: PLA 4263 or C.I. Analysis of the entire litigation process from the initial client interview through the appellate stage, and development of oral advocacy skills. *Fall, Spring.*

PLA 4935 HPA-LS 3(3,0)
Capstone: Legal Issues: PR: senior status, PLA 3155, Legal Studies major. The legal and socio-legal analysis of issues that require students to synthesize their legal studies education. Course will assist students entering employment or graduate education. *Fall, Spring.*

PLA 5587 HPA-LS 3(3,0)
Current Issues in Cyberlaw: PR: Graduate standing or C.I. Advanced examination and discussion of free speech, copyright, trademark, patent and privacy issues in the online environment through interactive class discussions, online discussions, postings, case study reviews, and legal research projects. *Occasional.*

POR 1120C CAH-LANG 4(3,1)
Elementary Portuguese Language and Civilization I: Introduces the student to Portuguese culture through the major language skills: listening, speaking, reading, and writing. Open only to students with no experience in this language. *Fall.*

POR 1121C CAH-LANG 4(3,1)
Elementary Portuguese Language and Civilization II: PR: POR 1120C or C.I. Continuation of POR 1120C. The course emphasizes the four major language skills: reading, writing, listening, and speaking. *Spring.*

POR 2200 CAH-LANG 3(3,0)
Intermediate Portuguese I: PR: POR 1120C or equivalent or C.I. Development of Portuguese language skills at the intermediate level. *Fall, Spring.*

POR 2201 CAH-LANG 3(3,0)
Intermediate Portuguese II: PR: POR 2200 or equivalent or C.I. Continuation of POR 2200 with emphasis on Portuguese cultures. *Fall, Spring.*

POR 3140 CAH-LANG 3(3,0)
Accelerated Portuguese for Speakers of Romance Languages: PR: FRE 2201, or ITA 2201, or SPN 2201, or course equivalent. Accelerated Portuguese for proficient speakers of Romance Languages. It is expected that students have no prior knowledge of Portuguese. *Occasional.*

POR 3300 CAH-LANG 3(3,0)
Portuguese Composition: PR: POR 2201 or C.I. Enhance and develop student's ability to communicate in written Portuguese. *Spring.*

POR 3301 CAH-LANG 3(3,0)
Advanced Portuguese Grammar and Composition: PR: POR 2201 or C.I. Develop student's proficiency in reading and writing of the Portuguese Language. *Fall.*

POR 3413 CAH-LANG 3(3,0)
Advanced Portuguese Oral Communication: PR: POR 2201 or C.I. Develop student's skills at an advanced level, focusing substantially on speaking and listening activities. *Spring.*

POS 2041 COS-POLS 3(3,0)
American National Government: A study of the dynamics of American national government, including its structure, organization, powers, and procedures. *Fall, Spring.*

POS 2041H COS-POLS 3(3,0)
Honors American National Government: PR: Permission of Honors. Same as POS 2041 with honors-level content. *Occasional.*

POS 3076 COS-POLS 3(3,0)
American Indian Politics: PR: POS 2041 or C.I. Politics and policies specific to indigenous peoples of the United States. *Occasional.*

POS 3122 COS-POLS 3(3,0)
State Government and Public Policy: PR: POS 2041 or C.I. A comparative study of American state governments, political processes, and public policies, with emphasis on Florida. *Occasional.*

POS 3122H COS-POLS 3(3,0)
Honors State Government and Public Policy: PR: POS 2041 or C.I. and permission of Honors. A comparative study of American state governments, political processes, and public policies, with emphasis on Florida. With Honors content. *Occasional.*

POS 3173 COS-POLS 3(3,0)
Southern Politics: PR: POS 2041 or C.I. Study of southern politics past and present. Emphasis on factors effecting changes in the region and the states. Southern and national relationship examined. *Occasional.*

POS 3182 COS-POLS 3(3,0)
Florida Politics: PR: POS 2041 or C.I. Examines the foundations of Florida government and political behavior, political institutions, and public policy. *Occasional.*

POS 3182H COS-POLS 3(3,0)
Honors Florida Politics: PR: POS 2041 or C.I., and consent of Honors. Foundations of Florida government and political behavior, political institutions, and public policy. With Honors content. *Occasional.*

POS 3233 COS-POLS 3(3,0)
Public Opinion: PR: Junior standing or C.I. Nature, impact and development of public opinion, emphasizing the influence of race, gender, age, and class on opinions, voting, and political behavior. *Fall.*

POS 3234 COS-POLS 3(3,0)
Protest in American Politics: PR: POS 2041 or C.I. Connections between politics and protest in American politics including its impact on policy, and the implications of the generalization of protest for democracy. *Occasional.*

POS 3235 COS-POLS 3(3,0)
Mass Media and Politics: PR: ENC 1102 or POS 2041 or C.I. Influence of media on campaigns, public officials, public opinion, the definition of political news, and selected public policies. *Occasional.*

UCF Courses and Descriptions

POS 3235H COS-POLS 3(3,0)
Honors Mass Media and Politics: PR: POS 2041 or C.I., consent of Honors. Influence of media on campaigns, public officials, public opinion, the definition of political news, and selected public policies. With Honors content. *Occasional.*

POS 3258 COS-POLS 3(3,0)
Politics in Film: PR: ENC 1102 or POS 2041 or C.I. The influence of motion pictures on popular understanding of American and international politics. *Even Fall.*

POS 3272 COS-POLS 3(3,0)
Civic Engagement: PR: Junior standing and either PAD 3003 or POS 2041 or C.I. Formal and informal civic engagement in the United States across levels of government, sectors of society, and modes of interaction. *Even Fall, Even Spring.*

POS 3273 COS-POLS 3(3,0)
Voting and Elections: PR: POS 2041 or C.I. Theoretical and substantive inquiry into U.S. electoral system; includes focus on voter behavior as well as national and state electoral systems. *Occasional.*

POS 3413 COS-POLS 3(3,0)
The American Presidency: PR: ENC 1102 or POS 2041 or C.I. Examination of historical and contemporary role of the presidency, including the presidential selection process and the office's evolution in status, powers, administrative responsibilities, leadership, and decision-making. *Occasional.*

POS 3424 COS-POLS 3(3,0)
Congress and the Legislative Process: PR: POS 2041 or C.I. Examination of the Congress as an institution undergoing dynamic change; emphasis upon recruitment of legislators, institutional and informal rules, the committee system, legislative procedures. *Fall.*

POS 3443 COS-POLS 3(3,0)
Political Parties and Processes: PR: POS 2041 or C.I. In-depth study of the American political party system in the context of changing American politics; topics include development, organization, reforms, legislative and executive roles. *Occasional.*

POS 3463 COS-POLS 3(3,0)
Interest Groups: PR: POS 2041 or C.I. Analyzes the non-electoral behavior of economics, ideological, and citizen groups; political action committees; and the proliferation of interest organizations over the past quarter century. *Occasional.*

POS 3627 COS-POLS 3(3,0)
Cultural Pluralism and Law: PR: POS 2041. A case law approach to the legal and constitutional aspects of historical and current issues facing minorities in the U.S. *Occasional.*

POS 3703 COS-POLS 3(3,0)
Scope and Methods of Political Science: PR: POS 2041 or C.I. The scope and methodology of political analysis. Extensive examination of the discipline, research design and methodology. *Fall, Spring.*

POS 3703H COS-POLS 3(3,0)
Honors Scope and Methods: PR: POS 2041 and consent of Honors. Scope and methodology of political analysis. Discipline-specific research design, research process, methods of investigation and analysis, survey research, sampling, qualitative research, and ethical considerations. *Occasional.*

POS 3733 COS-POLS 3(3,0)
Designing Political Science Research: PR: POS 2041 or INR 2002 or C.I. Logic of inquiry, research design, literature review; research ethics; case studies and case selection; other qualitative methods, such as interview techniques and content analysis. *Even Spring.*

POS 3949 COS-POLS 0(0,8)
Cooperative Education in Political Science: PR: Departmental permission required before registering. Cooperative education experience in political science. Graded S/U. May be repeated. *Occasional.*

POS 4030 COS-POLS 3(3,0)
The Politics of Sports: PR: POS 2041 or C.I. Emergent concerns in sports policy, institutional interventions in sports regulations, the politics of sports arenas and teams, and civic and political engagement through sports. *Occasional.*

POS 4074 COS-POLS 3(3,0)
Latino Politics: PR: POS 2041 or C.I. Political characteristics of the Latino community in the United States and its impact on U.S. national and international politics and policies. *Occasional.*

POS 4142 COS-POLS 3(3,0)
Metropolitan Politics: PR: POS 2041 or C.I. Analysis of political patterns, processes, and issues in American communities. Intergovernmental relations and structural and political arrangements in the existing and emerging metropolitan areas. *Occasional.*

POS 4204 COS-POLS 3(3,0)
Political Behavior: PR: POS 2041 or C.I. Mass political behavior, concentrating on voting and participation, primarily in the United States. *Occasional.*

POS 4206 COS-POLS 3(3,0)
Political Psychology: PR: ENC 1102 or POS 2041 or C.I. The psychological analysis of political behavior, with emphasis on the individual rather than the political system; includes political attitudes and communication, leadership, and personality influences on politics. *Occasional.*

POS 4244 COS-POLS 3(3,0)
Political Socialization: PR: POS 2041 or C.I. Examines acquisition and development of political values, beliefs, attitudes, and opinions; how individuals learn about politics; and influences on political development, behavior, and opinion. *Occasional.*

POS 4284 COS-POLS 3(3,0)
Judicial Process and Politics: PR: ENC 1102 or POS 2041 or C.I. Study of the formal and informal judicial process. Legal culture, bureaucratic model, judicial recruitment and outputs, comparative judicial behavior. *Fall, Odd Spring.*

POS 4412 COS-POLS 3(3,0)
Presidential Campaigning: PR: ENC 1102. Introduces the process of candidate selection, convention behavior, actual campaign process and the transition of power. *Occasional.*

POS 4603 COS-POLS 3(3,0)
American Constitutional Law I: PR: ENC 1102 or POS 2041 or C.I. Development of American federalism and national power, commerce clause, and nationalization of the economy. *Fall.*

POS 4604 COS-POLS 3(3,0)
American Constitutional Law II: PR: ENC 1102 or POS 2041 or C.I. Development of civil liberties and civil rights in the American federal system. *Spring.*

POS 4622 COS-POLS 3(3,0)
Politics and Civil Rights: PR: ENC 1102 or POS 2041 or C.I. Examination of civil rights issues in the context of political behavior, political institutions and public policy since 1865. *Occasional.*

POS 4700 COS-POLS 3(3,0)
Teaching American Politics and Government: PR: POS 2041 or C.I. Overview of teaching and learning U.S. and Florida politics and government in elementary, middle and high school focusing on Florida civics and government benchmarks. *Fall.*

POS 4764 COS-POLS 3(3,0)
GIS for Political Analysis: PR: POS 2041 and ENC 1102. Use of mapping and other spatial methods in political science research. *Occasional.*

POS 4941 COS-POLS 3-9(0,3-9)
Political Science Internship: PR: C.I. Internship working with the national, state, county or municipal government. Assignments with selected civic organizations, elected or appointed officials. May be repeated for credit. *Occasional.*

POS 4961 COS-POLS 0(0,0)
Exit Exam: PR: POS 2041 and Senior Standing. Complete the departmental exit exam during the semester of graduation. *Fall, Spring.*

POT 3204 COS-POLS 3(3,0)
American Political Thought: PR: ENC 1102 or POS 2041 or C.I. From its sources to the 20th century, including liberalism, puritanism, the Federalist, the rise of industrialism, resulting social movements, modern variations. *Odd Fall.*

POT 3302 COS-POLS 3(3,0)
Modern Political Ideologies: PR: ENC 1102. A study of modern ideologies since the French Revolution including liberalism, conservatism, capitalism, nationalism, fascism and anarchism. *Occasional.*

POT 4003 COS-POLS 3(3,0)
Political Theory: PR: ENC 1102. Examination of various normative approaches to the study of political science, stressing contemporary developments in the field. *Occasional.*

POT 4025 COS-POLS 3(3,0)
Ancient, Medieval and Early Modern Political Philosophy: PR: ENC 1102. Study of the development of political and social ideas in western thought from early Greece through the 17th century. *Occasional.*

POT 4054 COS-POLS 3(3,0)
Modern Political Philosophy: PR: ENC 1102. Study of the development of political and social ideas from the 18th century to the present. May be taken independently of POT 4045 (Ancient, Medieval and Early Modern Political Philosophy). *Occasional.*

POT 4066 COS-POLS 3(3,0)
Contemporary Political Theory: PR: ENC 1102. Study of the contemporary debate about the status of rights, utilitarianism, and liberalism, and communitarian Marxist, libertarian, and feminist critiques of liberalism. *Occasional.*

POT 4109 COS-POLS 3(3,0)
Politics and Literature: PR: Junior standing or C.I. An examination of politics and the political process through the medium of literature. *Occasional.*

POT 4109H COS-POLS 3(3,0)
Honors Politics and Literature: PR: Junior standing. Politics and political process through the medium of literature. *Occasional.*

POT 4305 COS-POLS 3(3,0)
Democracy, Capitalism, and the Individual: PR: POS 2041 or C.I. An examination of the institutions of capitalism and democracy as the means of organizing, respectively, an economy and a polity. *Fall.*

POT 4314 COS-POLS 3(3,0)
Contemporary Democratic Theory: PR: ENC 1102 or POS 2041 or C.I. Study of democratic theories, emphasizing liberal democracy and its critics, elitist theories, participatory democracy, citizen participation, and relevance of empirical research to democratic theory. *Occasional.*

POT 4331 COS-POLS 3(3,0)
Utopia/Dystopia: PR: ENC 1102. Examines political issues, such as justice, economic distribution and social organization by exploring both classic and contemporary utopias and dystopias. *Occasional.*

POT 4345 COS-POLS 3(3,0)
Pan-Africanist Thought: PR: INR 2002 or C.I. Philosophical assumptions, theoretical frameworks, ideological orientations and social/political thinkers that have contributed to the tradition of Pan-Africanist thought. *Occasional.*

POT 4414 COS-POLS 3(3,0)
Marxist Political Theory: PR: ENC 1102. Survey of Marx & Engels and other thinkers, exposing the theoretical underpinnings of nations and groups who have adapted marxist principles for governance. *Occasional.*

POT 4632 COS-POLS 3(3,0)
Religion and Politics: PR: ENC 1102 or POS 2041 or C.I. Institutional and individual relationship of religion and politics including globalization, fundamentalism, secularization, American exceptionalism, political behavior, and the religious origins of current secular concepts. *Occasional.*

PPE 3003 COS-PSYCH 3(3,0)
Personality Theory and Research: PR: PSY 2012. A survey of theory and research on the development of personality characteristics. *Fall/Spring.*

PPE 3003H COS-PSYCH 3(3,0)
Honors Personality Theory: PR: PSY 2012 and Consent of Burnett Honors College. Theory and research on the development of personality characteristics. With Honors content. *Occasional.*

PPE 5055 COS-PSYCH 3(3,0)
Personality Theories: PR: Graduate status or senior standing or C.I. Critical theoretical models of personality development with applications to counseling, psychotherapy and psychological assessment. *Occasional.*

PSB 3002 COS-PSYCH 3(3,0)
Physiological Psychology: PR: PSY 2012. The physiological basis of behavior, emphasizing the relationship between the nervous system and behavior. *Fall/Spring.*

PSB 3002H COS-PSYCH 3(3,0)
Honors Physiological Psychology: PR: PSY 2012H and consent of Honors. Physiological basis of behavior, emphasizing the relationship between the nervous system and behavior. With Honors content. *Occasional.*

PSB 3441 COS-PSYCH 3(3,0)
Psychobiological Aspects of Drugs: PR: PSY 2012. An advanced course designed for web instruction. Focuses on pharmacology, neurophysiology and neuroanatomy as the foundation of understanding behavior and social consequences of drug use. *Spring.*

PSB 3842 COS-PSYCH 3(3,0)
Sleep and Dreams: PR: PSY 2012. An overview of the psychological and physiological foundations of sleep and dreams. Concrete facts and disturbances of sleep. Cultural perspectives on, and contemporary applications of dreams. *Occasional.*

PSB 4103C COS-PSYCH 3(2,2)
Biofeedback Applications: PR: PSY 2012, PSB 3002 and C.I. Introduction to theory, instrumentation, research and clinical application of biofeedback. Training in use of biofeedback equipment. Lecture/Lab. *Occasional.*

PSB 4240C COS-PSYCH 4(3,2)
Neuropsychology: PR: PSB 3002. Study of brain function, with particular emphasis on human behavior. Lecture/Lab. *Fall, Odd Spring.*

PSB 5005 COS-PSYCH 3(3,0)
Physiological Psychology: PR: PSB 3002 and graduate status or senior standing or C.I. An advanced survey of the physiological basis of behavior, emphasizing the relationship between the nervous system and behavior. *Occasional.*

PSC 1121 COS-PHYS 3(3,0)
Physical Science: PR: High school algebra or MAC 1105C. Fundamental laws of mechanics, heat, waves, electricity, magnetism; chemical processes and equations, properties of gases, liquids, solids, solutions. *Fall/Spring.*

PSC 1121L COS-PHYS 1(0,2)
Physical Science Lab: CR: PSC 1121. Experiments to apply the scientific method to observation and analysis in mechanics, heat, light, electricity and magnetism, chemical and physical transformations. *Fall/Spring.* M&S fee \$14.00

PSC 1801 COS-PHYS 3(3,0)
Physics in Films: PR: High school algebra. Physics using film as a vehicle of education. Not open to students with credit in PSC 1121. *Occasional.*

PSY 2012 COS-PSYCH 3(3,0)
General Psychology: A survey of the basic principles, theories, and methods of contemporary psychology, including the study of human diversity. *Fall/Spring.*

PSY 2012H COS-PSYCH 3(3,0)
Honors General Psychology: PR: Permission of Honors. A survey of the basic principles, theories, and methods of contemporary psychology, including the study of human diversity. Honors-level content. *Fall/Spring.*

PSY 2023 COS-PSYCH 2(2,0)
Psychology Cornerstone: Career Paths: PR: PSY 2012. What it means to be a psychology major, career opportunities upon graduation, and different graduate school paths. Graded S/U. *Fall/Spring.*

PSY 3022C COS-PSYCH 3(1,8)
Academic Counseling: PR: PSY 2012. Psychology majors only. Research findings, theory, models and techniques of academic counseling and career advising. Graded S/U. *Fall/Spring.*

PSY 3028 COS-PSYCH 3(3,0)
Psychology of Career Development: PR: PSY 2012 or C.I. Review of career development theories and current psychological literature on career decision-making. Examination of career development in psychology including educational entry requirements and related issues. *Occasional.*

PSY 3204C COS-PSYCH 4(3,1)
Honors Statistical Methods in Psychology: PR: Consent of Honors, PSY 2012, and either STA 2014C or STA 2023, or C.I. Standard scores, confidence intervals, sampling distributions, hypothesis testing, correlation and regression as applied to research in psychology. With Honors content. *Occasional.*

PSY 3204C COS-PSYCH 4(3,1)
Statistical Methods in Psychology: PR: PSY 2012, and either STA 2014C or STA 2023, or C.I. Standard scores, confidence intervals, sampling distributions, hypothesis testing, correlation and regression as applied to research in psychology. *Occasional.*

PSY 3213C COS-PSYCH 5(3,2)
Honors Research Methods in Psychology: PR: PSY 2012, PSY 3204C and STA 2014C or STA 2023 and consent of Honors. Investigation of experimental designs and research methods utilized in psychology. Laboratory outcomes will be statistically analyzed and reported in APA format. With Honors content. *Occasional.*

PSY 3213C COS-PSYCH 5(3,2)
Research Methods in Psychology: PR: PSY 2012, PSY 3204C, and either STA 2014C or STA 2023. Investigation of experimental designs and research methods utilized in psychology. Laboratory outcomes will be statistically analyzed and reported in APA format. *Fall/Spring.*

PSY 3302 COS-PSYCH 3(3,0)
Psychological Measurement: PR: PSY 2012 and STA 2014C or STA 2023. A study of the theory underlying psychological tests and measurements procedures, including reliability, validity, and item analysis. *Occasional.*

PSY 3320C COS-PSYCH 3(2,2)
Survey Methods in Psychology: PR: PSY 3204C. Sampling methods, questionnaire construction, and interpretation of results. *Occasional.*

PSY 3625 COS-PSYCH 3(3,0)
Science and Pseudoscience in Psychology: PR: PSY 2012 or C.I. Critically evaluates fringe-science, paranormal, and otherwise unusual beliefs about human behavior. Scientific methodology is used to evaluate bizarre claims such as ESP, astrology, voodoo, mind control, and alien abduction. *Occasional.*

PSY 3630 COS-PSYCH 3(3,0)
Psychology of Human-Animal Interaction: PR: PSY 2012 and Psychology major, or C.I. Psychological aspects of human relationships with animals. *Occasional.*

PSY 3951 COS-PSYCH 1-9(3-30)
Undergraduate Field Work: PR: Senior standing and C.I. Placement in a community agency for supervised experience in applications of psychology to community problems. Graded S/U. May be repeated for credit. *Fall/Spring.*

PSY 4025 COS-PSYCH 3(3,0)
The Psychology of Art: PR: or CR: ARH 2050 or ARH 2051, or any ART prefix course. Discussion of the psychological perspectives on art to gain a greater understanding and enhanced appreciation for the process and products of creativity. *Occasional.*

PSY 4049 COS-PSYCH 1(1,0)
Psychology Capstone: PR: PR or CR: PSB 3002 and PSY 3213C and PSY 4604, and Psychology Major. Refresh and apply knowledge in core areas of psychology to cutting edge research in applied disciplines. Graded S/U. *Occasional.*

PSY 4215C COS-PSYCH 4(3,2)
Advanced Research Methods in Psychology: PR: PSY 3213C. Design, analysis, and interpretation of complex research projects in psychology. *Fall/Spring.*

PSY 4215C COS-PSYCH 4(3,2)
Honors Advanced Research Methods in Psychology: PR: PSY 3213C and consent of honors. Design, analysis, and interpretation of complex research projects in psychology with honors level content. *Occasional.*

PSY 4604 COS-PSYCH 3(3,0)
History and Systems of Psychology: PR: PSY 2012 and Junior standing. Historical development of psychology, with emphasis on classical theoretical positions. *Occasional.*

PSY 4604H COS-PSYCH 3(3,0)
Honors History and Systems in Psychology: PR: PSY 2012 and Junior standing and consent of Honors. Historical development of psychology, with emphasis on classical theoretical positions. With Honors content. *Occasional.*

PSY 4942 COS-PSYCH 3(3,0)
Instructional Experiences in Undergraduate Psychology: PR: PSY 2012 and C.I. Prepares undergraduate students to more effectively learn psychology concepts by facilitating learning in variety of university psychology classrooms and labs. Graded S/U. *Occasional.*

PSY 5605 COS-PSYCH 3(3,0)
History and Systems of Psychology: PR: Acceptance to Clinical Psychology PhD program or C.I. An examination of modern American psychology from its origins in the late 19th century to the present time. This course is intended for the PhD in Clinical Psychology; in certain instances graduate students in other programs may enroll. *Odd Fall.*

PUP 3014 COS-POLS 3(3,0)
Comparative Public Policy: PR: POS 2041 or CPO 3103 or C.I. Areas of public policy such as immigration, education, trade, taxation, and fiscal policy in selected countries. *Occasional.*

PUP 3203 COS-POLS 3(3,0)
Environmental Politics: PR: ENC 1102 or POS 2041 or C.I. An examination of politics and policy-making concerning issues of conservation, pollution and development of land, air, and water resources. *Odd Fall.*

PUP 3204 COS-POLS 3(3,0)
Sustainability: PR: ENC 1102 or Junior standing. Environmental politics through the lens of "sustainability." Attention devoted to the relationships of culture, economics, and ecology. *Odd Fall.*

PUP 3314 COS-POLS 3(3,0)
Minorities in American Politics: PR: ENC 1102 or POS 2041 or C.I. Historical and contemporary role of minority groups in the American political process, including an examination of their electoral significance and relevant legislative, executive, and judicial policies. *Occasional.*

PUP 3325 COS-POLS 3(3,0)
Women and Political Behavior: PR: POS 2041 or ENC 1102, or C.I. Women's role in the political process, emphasizing women in the governmental and policy process. *Occasional.*

PUP 4003 COS-POLS 3(3,0)
American Public Policy: PR: POS 2041 or C.I. Policy formation, implementation and evaluation, with a focus upon contemporary American problems, including the malapportionment of societal power and social conflict. *Occasional.*

UCF Courses and Descriptions

PUP 4209 COS-POLS 3(3,0)
Urban Environmental Policy: PR: ENC 1102 or POS 2041 or C.I. Public policy, ecology, and the urban political landscape explored by tracing their development and prospects for sustainable cities. *Occasional.*

PUP 4323 COS-POLS 3(3,0)
Women and Public Policy: PR: POS 2041 or ENC 1102, or C.I. Public policies and processes that achieve a disparate impact on women and women's lives in the United States. *Occasional.*

PUP 4404 COS-POLS 3(3,0)
Education and Politics: PR: Junior standing or C.I. Western education and the connection between citizenship and education, education funding, and the politics of education reform. *Occasional.*

PUP 4503 COS-POLS 3(3,0)
Government and Science: PR: ENC 1102 or POS 2041 or C.I. Examination of interface between science and government. Focus is upon governmental support for science, social accountability, and the role of the scientist-policy maker in comparative context. *Occasional.*

PUP 4510 COS-POLS 3(3,0)
Space Policy: PR: ENC 1102. An examination of the politics and policy-making involved with the US space program in the context of domestic demands and other international space programs. *Even Fall.*

PUP 4602 COS-POLS 3(3,0)
Politics of Health: PR: ENC 1102. Analysis of public health policies. Primary focus upon political processes, policymakers, and interest group interventions, including consumers and policy outcomes. Comparative health policies. *Occasional.*

PUP 4744 COS-POLS 3(3,0)
Government and Business: PR: ENC 1102. Analysis of public policies regarding business. Study includes various levels of government including international organizations. *Occasional.*

PUP 4931 COS-POLS 3(3,0)
Topics in Public Policy: PR: ENC 1102 or POS 2041, or C.I. Intensive analysis of a current policy problem. Sample topics include education, growth management, housing, affirmative action, welfare, and transportation. May be used in the degree program a maximum of 2 times. *Occasional.*

PUR 3004 COS-COMM 3(3,0)
Public Relations and Society: PR: One of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. The important role public relations has played in the development of contemporary society. *Occasional.*

PUR 3100 COS-COMM 3(2,1)
Writing for Public Relations: PR: Ad-PR Majors only. Development of skills in writing for public relations. *Fall, Spring.*

PUR 3210 COS-COMM 3(3,0)
Communication Approach to Corporate Social Responsibility: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. A communication-based approach to corporate social responsibility. *Occasional.*

PUR 3210H COS-COMM 3(3,0)
Honors Communication Approach to Corporate Social Responsibility: PR: Consent of Honors and either SPC 1608, SPC 1603, COM 1000, or C.I. Advanced review of a communication based approach to corporate social responsibility. *Occasional.*

PUR 3912 COS-COMM 3(3,0)
Collaborative Experiential Research Practicum: PR: Either SPC 1608, SPC 1603C or COM 1000, and C.I. Students will work as research assistants in a team, under faculty supervision, and learn first-hand the process of conducting communication/social scientific research. May be used in the degree program a maximum of 2 times. *Occasional.*

PUR 4000 COS-COMM 3(3,0)
Public Relations: PR: SPC 1608, or SPC 1603C, or COM 1000. Principles and practice of Public Relations including techniques, research tools publicity, and management. *Fall, Spring.*

PUR 4000H COS-COMM 3(3,0)
Honors Public Relations: PR: Consent of Honors, and one of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. Advanced review of principles and practice of public relations including techniques, research tools, publicity and management. *Occasional.*

PUR 4014 COS-COMM 3(3,0)
Preparing for Public Relations Certification: PR: PUR 4000, and ADV 4941 or PUR 4941, and senior standing, or C.I. Advanced study in the history, principles, skills, ethics of PR and preparation for the Certification in Principles of Public Relations exam administered by the UAB. *Fall, Spring.*

PUR 4110C COS-COMM 3(1,3)
Public Relations Publications: PR: Ad-PR majors and PUR 3100. Basic principles and techniques of desktop production of public relations publications. *Fall, Spring.*

PUR 4203 COS-COMM 3(3,0)
PR/Advertising Ethics and Law: PR: Ad-PR majors only and ADV 3008. Legal precedents applicable to advertising and public relations as well as ethical considerations for both. *Occasional.*

PUR 4400 COS-COMM 3(3,0)
Crisis Communication: PR: SPC 1603 or SPC 1608 or COM 1000, and Ad-PR major, or Communication and Conflict major or Mass Communication minor, or C.I. The theory, process, and best practices of crisis communication. *Occasional.*

PUR 4801 COS-COMM 3(3,0)
Public Relations Case Studies: PR: Ad-PR majors only and PUR 4000 or C.I. Discussion and analysis of public relations cases highlighting the application of PR theory to advance organizational goals *Fall, Spring.*

QMB 4700 BA-MAN 3(3,0)
Managerial Decision Making: PR: GEB 3031 and MAN 3025. Computer-based quantitative decision models (including linear programming and extensions, queuing, network models, simulation) and decision support systems for business organizations. *Occasional.*

REA 1105 ED-TL&L 3(3,0)
College Reading I: College reading improvement focusing on content areas and advanced study skills, comprehension, vocabulary growth, reading rate, note taking, and test preparation. *Fall, Spring.*

RED 3012 ED-TL&L 3(3,0)
Basic Foundations of Reading: PR: Junior standing or C.I. Principles, procedures, and current practices for teaching reading. Specific techniques and materials for word identification, content reading and comprehension. *Fall, Spring.*

RED 3310 ED-TL&L 3(3,0)
Early Reading, Writing and Language Arts: PR: Admission to the Early Childhood Education Program. Emergent reading/writing processes during preschool, kindergarten, and first grade; methods for implementing integrated language arts curriculum; guiding developmental early childhood language experiences. *Occasional.*

RED 4043 ED-TL&L 3(3,0)
Content Reading in Kindergarten through Grade 12: PR: Junior or senior standing. Admission to the teacher education program. Content literacy in the K-12 school curriculum; Principles, strategies, assessment, and promising practices. *Fall, Spring.*

RED 4311 ED-TL&L 3(3,0)
Primary Reading, Writing, and Language Arts Curriculum and Assessment: PR: RED 3012 and RED 3310; CR: EEC 3940. Methodologies for teaching and assessing young children in reading, writing, and language arts in the elementary grades. *Fall.*

RED 4519 ED-TL&L 3(3,1)
Diagnostic and Corrective Reading Strategies: PR: RED 3012. An investigation of the needs of individual learners in reading instruction. Organization and techniques for promoting optimum reading growth. Concurrent school experiences required. *Fall, Spring.*

RED 4942 ED-TL&L 3(3,0)
Practicum for Assessment and Instruction of Reading: PR: RED 4519. Corequisite: Internship I. Practicum that provides opportunity to apply knowledge of reading assessment and instruction in order to increase reading proficiency of struggling readers. Concurrent school experience required. *Fall, Spring.*

RED 5147 ED-TL&L 3(3,0)
Developmental Reading: PR: Graduate standing or C.I. Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction. *Occasional.*

RED 5517 ED-TL&L 3(3,1)
Classroom Diagnosis and Development of Reading Proficiencies: PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case study required. *Even Fall, Spring.*

RED 5948 ED-TL&L 3(3,0)
Practicum in Reading Assessment and Instruction: PR: RED 5517. Practicum that requires application of reading assessment and instruction in order to increase reading proficiency of struggling readers. Concurrent K-12 field experiences required. *Fall, Spring.*

REE 3043 BA-FIN 3(3,0)
Fundamentals of Real Estate: PR: Junior standing. Application of basic tools of economics, finance, and marketing to solve private and public sector real estate problems. *Fall, Spring.*

REE 3433 BA-FIN 3(3,0)
Real Estate Law: PR: Junior standing. An analysis of real estate law with emphasis on Florida statutes and case law. *Fall, Spring.*

REE 3614 BA-FIN 3(3,0)
Environmental Issues for Real Estate: PR: REE 3043, REE 3433; open to majors or minors which require this course. Political, cultural, institutional and scientific mechanisms which shape environmental policy. The effects of hazard, risk and uncertainty in policy development. *Occasional.*

REE 4103 BA-FIN 3(3,0)
Real Estate Appraisal and Valuation: PR: FIN 3403. Focus on the fundamentals of real estate valuation utilizing tools of financial and economic analysis. *Occasional.*

REE 4203 BA-FIN 3(3,0)
Commercial Real Estate Finance: PR: FIN 3403; open to majors or minors which require this course. The practice of commercial real estate finance; emphasis on lender and borrower decision making and secondary markets. *Occasional.*

REE 4204 BA-FIN 3(3,0)
Residential Real Estate Finance: PR: FIN 3403; open to majors or minors which require this course. Study of the practice of residential real estate finance; emphasis on lender and borrower decision making and secondary markets. *Fall, Spring.*

REE 4303 BA-FIN 3(3,0)
Real Estate Investment Analysis: PR: FIN 3403. Focus on real estate decision-making in the private sector utilizing tools of financial and economic analysis. *Fall, Spring.*

REE 4312 BA-FIN 3(3,0)
Real Estate Market Analysis: PR: REE 3043. Course applies finance and economic tools to housing and commercial markets, emphasis on urban housing, real estate brokerage, effects on market performance and development. *Fall.*

REE 4732 BA-FIN 3(3,0)
Real Estate Development: PR: FIN 3403. The real estate development process, from the inception of a project through to lease-up, long-term financing, and final sale to the investment community. *Fall.*

REE 4933 BA-FIN 3(3,0)
Advanced Topics in Real Estate: PR: REE 3043 and REE 3433, or department approval. Advanced topics in real estate development, investment analysis, and market analysis. Cases cover the entire planning process for a real estate development or redevelopment project. *Occasional.*

REL 2000 CAH-PHIL 3(3,0)
Introduction to Religion and Cultural Studies: Introduction to the fields of religion and cultural studies explored from various disciplinary perspectives with attention given to the relationship between religion and popular culture. *Fall.*

REL 2300 CAH-PHIL 3(3,0)
World Religions: Basic features and historical background of Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity, and Islam. *Fall, Spring.*

REL 2300H CAH-PHIL 3(3,0)
Honors World Religions: PR: Permission of Honors. Basic features and historical background of Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity, and Islam. Honors-level content. *Occasional.*

REL 3101 CAH-PHIL 3(3,0)
Religion in Popular Culture: PR: REL 2000, REL 2300 or C.I. Exploration of traditional religion in popular culture and popular culture as non-traditional religion by means of various postmodern, theoretical perspectives with emphasis on the religious dynamics involved but often unnoticed in popular (secular) culture. *Fall.*

REL 3111 CAH-PHIL 3(3,0)
Religion and Philosophy Through Film: PR: ENC 1102 and either PHI 2010 or REL 2300 or FIL 1000. Religious and philosophical themes encountered in contemporary film. It unites religion, philosophy and film by means of a critique of cultural productions of meaning, value and purpose. *Occasional.*

REL 3112 CAH-PHIL 3(3,0)
Religion and 20th Century Fantasy Texts: PR: HUM 2230 or REL 2300 or C.I. Explorations of religion and secularity in the texts of Harry Potter, Lord of the Rings, Chronicles of Narnia, and His Dark Materials. *Occasional.*

REL 3115 CAH-PHIL 3(3,0)
Religion, Spirituality, and Popular Music: PR: HUM 2230 or REL 2300. Contemporary spiritual sensibilities encountered at the intersection of religion, philosophy, and popular music. *Odd Fall.*

REL 3123 CAH-PHIL 3(3,0)
Asian Religions in America: PR: REL 2300 or REL 2000. Examines both the Euro-American assimilation of Asian religions and immigrant Asian religious communities. Explores cross-cultural exchange, religious innovation and cultural appropriation. *Even Spring.*

REL 3130 CAH-PHIL 3(3,0)
Religion in America: PR: REL 2300. Religious traditions in America, their relationship to politics, popular culture, media, and society. *Even Spring.*

REL 3320 CAH-PHIL 3(3,0)
Moses, Jesus and Muhammad: PR: HUM 2230, REL 2300, or C.I. Main themes of Judaism, Christianity, and Islam as found in the teachings of Moses, Jesus, and Muhammad. *Occasional.*

REL 3333 CAH-PHIL 3(3,0)
Hinduism: PR: HUM 2230, REL 2300, or C.I. A survey of the development of Hindu thought and culture from Vedic times to the Upanashids, Epic Literature to the modern age. *Even Spring.*

REL 3340 CAH-PHIL 3(3,0)
Buddhism: PR: HUM 2230 or REL 2300 or C.I. An introduction to Buddhist thought, practices, cultures and history. It traces the development of Buddhism through South-East Asia, East Asia, Tibet and the West. *Odd Fall, Spring.*

REL 3363 CAH-PHIL 3(3,0)
Islam: PR: REL 2300 or C.I. Development of Islamic religious thought and culture, emphasizing the teachings of the Qur'an, Hadith, Islamic law, and philosophy with special focus on perceptions of Islam in the West. *Fall.*

REL 3403 CAH-PHIL 3(3,0)
Christianity: PR: REL 2300. A study of Christianity and the history of its associated beliefs, rituals, and art with special attention to issues concerning human nature, social justice, the state, just war, science, and attitudes toward women. *Occasional.*

REL 3432 CAH-PHIL 3(3,0)
Roots of Western Mysticism: PR: HUM 3431, HUM 3435, REL 3403, REL 3320, PHH 3100, or PHH 3200. Ancient, medieval, and early modern European mysticism, and its influences on religious, philosophical, artistic, and scientific thought in the West. *Even Fall, Odd Spring.*

REL 4110 CAH-PHIL 3(3,0)
Religion and the Arts: PR: At least one of the following: HUM 2210, HUM 2230, ARH 2050, ARH 2051, or REL 2300. Art, music, dance, and ritual practices in religious traditions, with an emphasis on contemporary society. *Occasional.*

REL 4157 CAH-PHIL 3(3,0)
Religion and Psychoanalysis: PR: REL 2300 and REL 2000. Interactions between psychoanalysis and religion, including multiple perspectives of psychoanalytic theorists on different religious traditions and phenomena. *Even Spring.*

REL 4178 CAH-PHIL 3(3,0)
Religion and Law: PR: POS 2041. Ideas and events which mark the relationship of religious ideation and practice, law and politics and cultural values which inform them. *Fall.*

REL 4180 CAH-PHIL 3(3,0)
Religion and Medicine: PR: Junior standing and REL 2300 or C.I. A comparative study of the approaches toward medicine and healing in different religious traditions, both in the US and abroad. *Occasional.*

REL 4180H CAH-PHIL 3(3,0)
Honors Religion and Medicine: PR: ENC 1102H, Junior standing and Consent of Honors. A comparative study of the approaches toward medicine and healing in different religious traditions in the U.S. and in the wider world. With Honors content. *Occasional.*

REL 4496 CAH-PHIL 3(3,0)
Key Concepts in Religion and Cultural Studies: PR: REL 2000, or C.I. Study of the development, meaning, and implications of a central concept in Religious Studies. May be repeated for credit only when course content is different. *Occasional.*

REL 4901 CAH-PHIL 1(1,0)
Portfolio: PR: Final semester as Humanities/Religious Studies track major. Presentation of a representative sampling of a student's best undergraduate work, with appropriate revision, including a cover narrative indicating development of knowledge and skills in the subject area. Graded S/U. *Occasional.*

REL 4910 CAH-PHIL 3(3,0)
Senior Research Seminar: PR: Senior standing and Religious Studies major, or C.I. Capstone course on research, developing effective oral and written communication skills. *Spring.*

REL 4936 CAH-PHIL 3(3,0)
Key Figures in Religion and Cultural Studies: PR: REL 2000, or C.I. Study of a central figure's work, influences, and effect. May be repeated for credit only when course content is different. *Occasional.*

RMI 3011 BA-FIN 3(3,0)
Principles of Risk and Insurance: PR: FIN 3403. Emphasis is on insurance as a risk-handling device, with attention given to risk assumption, risk avoidance, and loss prevention. *Spring.*

RTE 3457C HPA-HP 3(2.5,1.5)
Principles of Radiographic Exposure II: PR: RTE 3418C or C.I. Study of technical and photographic processing variables influencing conventional, radiographic and digital image quality. *Spring.*

RTV 2100 COS-COMM 3(3,0)
Writing for the Electronic Media: PR: ENC 1102, RTV Major. Practical experience in writing for various electronic media including radio, television, corporate, and digital media. Scripting requirements, writing styles and creative applications. *Fall, Spring.*

RTV 3007 COS-COMM 3(3,0)
Development and Structure of Electronic Media and New Technology: PR: SPC 1608 or SPC 1603C or COM 1000 or C.I. Nature of the media, the mechanics of operation of analog and digital systems, history, economics, programming, and internal and external controls. *Fall, Spring.*

RTV 3301 COS-COMM 3(3,0)
Electronic Journalism I: PR: RTV 2100 and RTV Major - Broadcast Journalism Specialization. Newswriting and newsgathering skills and strategies and their accompanying ethical considerations for analog and digital delivery of broadcast journalism. *Fall, Spring.*

RTV 3304 COS-COMM 3(3,0)
Electronic Journalism II: PR: RTV 3301, RTV 3531C, and RTV Major - Broadcast Journalism Specialization. Newswriting and newsgathering strategies learned in RTV 3301 are integrated into a newsgathering context for actual production of analog and digital radio and television news packages. *Fall, Spring.* M&S fee \$10.00

RTV 3321 COS-COMM 4(4,0)
Electronic News Gathering: PR: JOU 2100 and status as either an RTV or Journalism major, or C.I. An introduction to the profession and video news. Students plan, research, report, write and execute electronic news productions from concept to finished product. *Fall, Spring.*

RTV 3511 COS-COMM 3(3,0)
Production Fundamentals and Aesthetics of Electronic Media: PR: Either SPC 1608, SPC 1603, or COM 1000, or C.I. Technical and creative concepts of analog and digital electronic media production for radio, television, and multimedia delivery systems. *Fall, Spring.*

RTV 3531C COS-COMM 4(3,1)
Single Camera Video Production and Editing: PR: RTV 3511 and RTV Major- Production Specialization or Broadcast Journalism Specialization. Technical and aesthetic requirements of analog and digital single-camera video production and editing, including techniques for electronic news gathering (ENG) and electronic field production (EFP). Students should expect significant work in the RTV facility outside of class. *Fall, Spring.* M&S fee \$20.00

RTV 3543C COS-COMM 4(3,1)
Studio Television Production: PR: RTV 3511 and RTV major - Production Specialization. Analog and digital television studio production including audio mixers, microphones, tape recorders, cameras, video switchers, lighting, and electronic graphics. Students should expect significant work in the RTV facility outside of class. *Fall, Spring.* M&S fee \$20.00

RTV 3556C COS-COMM 3(2,1)
Audio Production I: PR: RTV 3511 and RTV Major- Production Specialization. Audio production theory and recording techniques utilizing various microphone types, and digital non-linear audio computer-based editing equipment. Students should expect significant work in the RTV facility outside of class. *Fall, Spring.* M&S fee \$10.00

RTV 3571C COS-COMM 3(2,1)
Advanced Video Post-Production: PR: RTV 3531C and RTV Major - Production Specialization. Advanced post-production techniques for analog and digital video, including A/B roll time code editing, digital video effects, electronic graphics, and non-linear video editing systems. Students should expect significant work in the RTV facility outside of class. *Fall, Spring.*

RTV 3581C COS-COMM 3(2,1)
Lighting for Video: PR: RTV 3543C or RTV 3531C, and RTV Major - Production Specialization. Basic lighting techniques for both studio and location, single and multiple-camera video production. Students should expect significant work in the RTV facility outside of class. *Fall, Spring.* M&S fee \$20.00

RTV 3590C COS-COMM 3(2,1)
Production of Interactive Multimedia: PR: CGS 1060C; major status in R-TV, Ad-PR, Journalism, Organizational and Interpersonal Communication. Practice and production of electronic interactive multimedia for the broadcast industry. Students should expect significant work in the RTV facility outside of class. *Fall.* M&S fee \$10.00

UCF Courses and Descriptions

RTV 3601C COS-COMM 3(2,1)
Broadcast Announcing and Performance: PR: RTV Major, Junior standing, and C.I. Development of performance skills and techniques required to be a performer in any area of broadcast television and performing industry, with emphasis on announcing, interviewing, reporting, auditioning, performance in scenes and commercials. Expect extensive studio work in the RTV facility outside the class. *Fall, Spring.* M&S fee \$10.00

RTV 3912 COS-COMM 3(3,0)
Collaborative Experiential Research Practicum: PR: Either SPC 1608, SPC 1603C or COM 1000, and C.I. Students will work as research assistants in a team, under faculty supervision, and learn first-hand the process of conducting communication/social scientific research. May be used in the degree program a maximum of 2 times. *Occasional.*

RTV 3942L COS-COMM 1-3(0,3-9)
Practicum: PR: C.I., RTV Major, and either RTV 3556C, RTV 3543C, or RTV 3531C. Student will serve in some position of responsibility for UCF Weekly News or other RTV program. Graded S/U. May be repeated for credit. *Occasional.*

RTV 4403 COS-COMM 3(3,0)
Electronic Media, Technology, and Society: PR: MMC 2004 and Journalism major; or PR or CR: RTV 3007; or C.I. Theories of mass communication, mass communication effects, and emerging communication technologies, including digital media. *Fall, Spring.*

RTV 4503 COS-COMM 3(3,0)
Sports Programming in Electronic Media: PR: Either SPC 1608, COM 1000, RTV 3007, or C.I. Factors that determine how sporting events are constructed for programming on broadcast stations, cable television, and other forms of electronic media. *Fall.*

RTV 4505 COS-COMM 3(2,1)
Program Issues for TV & Motion Pictures: PR: RTV 3007 or FIL 2030 or C.I. An examination of program development theories, strategies and issues in the television and motion picture industries. Students should expect significant work in the RTV lab facility outside of class. *Occasional.*

RTV 4544 COS-COMM 4(4,0)
Advanced Studio Production: PR: RTV 3531 and RTV 3543C and PR or CR: RTV 3571; or C.I. Advanced techniques in production and directing television programs and video projects both in-studio and on-location. *Fall, Spring.*

RTV 4557C COS-COMM 3(2,1)
Audio Production II: PR: RTV 3556C and RTV Major. Creating the sound design and multiple track recording in the analog and digital domain. Students should expect significant work in the RTV lab facility outside of class. *Occasional.* M&S fee \$15.00

RTV 4561C COS-COMM 3(2,1)
Radio Production and Programming: PR: RTV 3511 and RTV Major - Production or Broadcast Generalist Specialization. Study and production of current radio formats, the integration of digital resources, and their effects on today's radio listener. Students should expect significant work in the RTV lab facility outside of class. *Fall.*

RTV 4591C COS-COMM 3(2,1)
Webcasting I: PR: RTV Major and PR or CR: RTV 3590C. Presentation of broadcast material on the web. Integrates the distribution of radio, television, and web content. Students should expect significant work in the RTV lab facility outside of class. *Occasional.* M&S fee \$15.00

RTV 4592C COS-COMM 3(2,1)
Webcasting II: PR: RTV 4591C and RTV Major. Production of digital media in conjunction with other RTV production activities to repurpose broadcast content for delivery on the web. Students should expect significant work in the RTV lab facility outside of class. *Occasional.* M&S fee \$15.00

RTV 4673C COS-COMM 3(2,1)
Television Directing: PR: RTV 3543C, RTV 3531C, and RTV Major - Production Specialization. Preparation and direction of programs, using both digital and analog resources, with emphasis on dramatic value and composition. Students should expect significant work in the RTV facility outside of class. *Fall.* M&S fee \$20.00

RTV 4681C COS-COMM 4(1,3)
Television News: PR: RTV 3304 and RTV Major - Broadcast Journalism Specialization or C.I. Production of weekly campus newscast. Daily newsgathering and production decisions are conducted by students under the advisement of the instructor functioning as news director. Students should expect significant work in the RTV lab facility outside of class. *Fall, Spring.* M&S fee \$20.00

RTV 4682C COS-COMM 3(2,1)
Advanced TV News: PR: RTV 4681C, RTV Majors only and C.I. Supervised broadcast news experience and/or practice in the weekly UCF news program. Students should expect significant work in the RTV lab facility outside of class. *Occasional.*

RTV 4700 COS-COMM 3(3,0)
Regulation of Broadcasting: PR: RTV Major or Mass Comm. minor, and RTV 3007. Federal, state, local and self-regulatory agencies and practices which govern electronic media. *Fall.*

RTV 4800 COS-COMM 3(3,0)
Broadcast Management: PR: RTV Majors only. Examination of broadcast management problems in station operations at local, regional, and national levels. *Spring.*

RUS 1120 CAH-LANG 4(4,1)
Elementary Russian Language and Civilization I: Introduces the student to Russian culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. *Occasional.*

RUS 1121 CAH-LANG 4(4,1)
Elementary Russian Language and Civilization II: PR: RUS 1120 or equivalent. Continuation of RUS 1120. *Occasional.*

RUS 2200 CAH-LANG 3(3,1)
Intermediate Russian Language and Civilization I: PR: RUS 1121 or equivalent. Development of language skills and cultural knowledge at the intermediate level. *Occasional.*

RUS 2201 CAH-LANG 3(3,1)
Intermediate Russian Language and Civilization II: PR: RUS 2200 or equivalent. Continuation of RUS 2200, with emphasis on Russian civilization. *Occasional.*

RUS 2210 CAH-LANG 3(3,0)
Intensive Russian Conversation: PR: One year of Russian or equivalent. Practical use of the language, leading toward fluency and correctness in speaking. *Occasional.*

RUS 3240 CAH-LANG 3(3,0)
Russian Conversation: PR: RUS 2201 or equivalent. Development of skills in conversation and comprehension through practice. *Occasional.*

RUS 3760 CAH-LANG 3(3,0)
Advanced Russian Oral Communication: PR: RUS 2201 or equivalent. Vocabulary building with systematic training in diction and locution. Speeches and oral presentations as well as production and delivery of real-life dialogues. *Occasional.*

RUT 3505 CAH-LANG 3(3,0)
Russian Culture and Civilization: PR: ENC 1102 or C.I. Russian culture and civilization through a variety of topics and media. *Occasional.*

SCC 3003 HPA-CJ 3(3,0)
Physical Security: PR: SCC 3311 or C.I. Concepts and procedures for the development, implementation, and management of a physical security program and its application to assets protection. *Occasional.*

SCC 3311 HPA-CJ 3(3,0)
Security Administration: Discussion of modern security administration and the security-law enforcement interface, emphasizing a systems approach and utilizing the design of a security plan for a plant. *Occasional.*

SCC 3316 HPA-CJ 3(3,0)
Special Security Problems: PR: SCC 3311 or C.I. Review and application of basic security principles to retail security, transportation/cargo security, utility security, computer security, and other special security situations. *Occasional.*

SCE 3310 ED-TL&L 3(3,0)
Teaching Science in Elementary School: PR: EDG 4410 or C.I. CR: EDE 3942. Selected concepts; organizing for instruction; techniques; evaluation procedures. *Fall, Spring.* M&S fee \$10.00

SCE 4304 ED-TL&L 3(3,0)
Teaching Science and Technology to Young Children: Provides the knowledge and skills needed to plan and implement a discovery science/design technology program for young children in an integrated, interactive curriculum. *Fall.*

SCE 4360 ED-TL&L 4(4,0)
Science Instructional Analysis: PR: EDG 4410 or C.I.; CR: SCE 3940. Course objectives for a school curriculum and methods and materials for the middle grades and high school. *Fall, Spring.* M&S fee \$10.00

SCE 4361 ED-TL&L 3(3,0)
Programs in Teaching Science: PR: Admission to the Bachelor of Science in Science Education program or C.I. Special programs, strategies, and materials for middle and secondary school science education majors. *Spring.*

SCE 5325 ED-TL&L 3(3,0)
Teaching Middle School Science: PR: EDG 6415, TSL 5085 or admission to MED program or Initial Teacher Professional Preparation certificate. This course will provide experiences that promote effective science teaching in grades 5-9 including interdisciplinary teaming, technology use, ESOL, and inquiry in science. *Occasional.*

SCE 5337 ED-TL&L 3(3,0)
Issues and Methods in Secondary School Science: PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Secondary science education special methods course is designed to augment students' understanding of instructional methods and their applications to middle and high school science curriculum. *Fall, Spring.*

SCE 5836 ED-TL&L 3(3,0)
Space and Physical Science for Educators: PR: Graduate standing or C.I. Introduction to space and physical science, manned space flight, and space education curriculum. *Occasional.*

SLS 1282 ED-CFCS 1(1,0)
Foundations of American University Life: PR: C.I. Orientation of international students to American cultural contexts. Success through active, learner-centered dynamics. Methods to sustain student success beyond the first year and the university. *Fall, Spring.*

SLS 1501 ED-CFCS 1-3(1-3,0)
Strategies for Success in College: PR: First Time in College (FTIC) standing or C.I. Development of life-skills necessary for the contemporary student to appropriately adjust to college requirements that lead to self-mastery and the total concept of lifetime wellness. *Fall, Spring.*

SLS 2311C COM-BSBS 2(2,1)
Overview of Select Medical Careers: An overview of the pre-health professions process for careers in medicine, dentistry, veterinary, optometry, pharmacy, podiatry, and chiropractic. *Spring.*

SLS 2715 ED-CFCS 2(2,0)
Peer Educator Leadership: PR: Orientation Team Members or C.I. Training peer educators in helping strategies applicable to their peer leadership positions. *Fall, Spring.*

SOP 2772 COS-PSYCH 3(3,0)
Sexual Behavior: PR: PSY 2012. Physiological, social, and clinical aspects of human sexuality. *Fall.*

SOP 3004 COS-PSYCH 3(3,0)
Social Psychology: PR: PSY 2012. Effects of social situations and social variables on the behavior of individuals. *Fall, Spring.*

SOP 3723 COS-PSYCH 3(3,0)
Cross Cultural Psychology: PR: PSY 2012. Exploration of theories, issues, and research concerned with the psychological understanding of under-represented minority groups. *Odd Spring.*

SOP 3724 COS-PSYCH 3(3,0)
Psychology of Prejudice: PR: PSY 2012. Examination of literature relating to prejudice toward groups and individuals, development and maintenance of prejudice, and possible ways to reduce prejudice. *Even Spring.*

SOP 3742 COS-PSYCH 3(3,0)
Psychology of Women: PR: PSY 2012. Examination of the psychological impact of changing sex roles on women in modern society. Topics include child rearing, working women, and sex differences in personality and cognition. *Fall, Spring.*

SOP 3751 COS-PSYCH 3(3,0)
Legal Aspects of Psychology: PR: PSY 2012 or SYG 2000, or C.I. Ethical and legal dilemmas and issues in the practice of psychology. *Occasional.*

SOP 3784 COS-PSYCH 3(3,0)
Psychology of Diversity: PR: PSY 2012. A review of the contributions of psychology to the understanding of human diversity related to ethnic background, gender, sexuality, and belief systems. *Occasional.*

SOP 5059 COS-PSYCH 3(3,0)
Advanced Social Psychology: PR: SOP 3004C, graduate status or senior standing, or C.I. The major findings and theories in social psychology including an in-depth review of relevant research. *Occasional.*

SOW 2020 HPA-SOWK 3(3,0)
Careers in Creating Social Change: Introduces students to the field of social services, with emphasis on the social work profession and other careers that create social change. *Fall.*

SOW 3104 HPA-SOWK 3(3,0)
Human Behavior and the Social Environment I: PR: Junior Standing or C.I. Skill development in assessing "person-in-environment" throughout life cycle. Study interaction of bio-psychosocial, cultural, and systemic influences on human functioning. Open to non-majors and pending social work majors. *Fall.*

SOW 3111 HPA-SOWK 3(3,0)
Human Behavior and the Social Environment II: PR: Admission to BSW Program and SOW 3104. Development of skills in assessing families, groups, organizations, and communities, their impact on human functioning, and their potential for providing social support. *Spring.*

SOW 3284 HPA-SOWK 3(3,0)
Social Work Perspectives on Social Justice: PR: Junior Standing or C.I. Examination of the social justice mission of the social work profession. Addresses professional values, the rights of populations served, and justice within practice fields. *Fall, Spring.*

SOW 3300 HPA-SOWK 3(2,1)
Practice I: Generalist Practice in Social Work: PR: Admin. to Social Work Program. Study of social work functions, knowledge, values, and skills. Development of ability to use a generalist model of practice. *Fall.*

SOW 3352 HPA-SOWK 3(1,2)
Practice II: Interpersonal Skills in Social Work: PR: SOW 3300. PR or CR: SOW 3300. Study and practice of interviewing, group leadership, written communication, and oral presentations, in consensual as well as conflictual contexts of social work. *Spring.*

SOW 3401 HPA-SOWK 3(3,0)
Social Work Research: PR: STA 2014C or STA 2023. Study of quantitative and qualitative methods of building knowledge for social work and the ethical use of research in professional practice. *Spring.*

SOW 3620 HPA-SOWK 3(3,0)
Culturally Competent Social Work Practice: PR: SOW 3284 and SOW 3104; PR or CR: SOW 3300. Social work intervention and skill development needed to serve oppressed groups. *Spring.*

SOW 3740 HPA-SOWK 3(3,0)
Social Work Practice with Loss & Life's Transitions: PR: Junior Standing or C.I. A wide range of losses across the life span will be presented from a strengths perspective. Assessment & intervention recognizing cultural differences will be addressed. *Fall.*

SOW 4148 HPA-SOWK 3(3,0)
Introduction to Military & Veteran Culture for Social Work Practice: PR: Junior standing; CR: SOW 3284 or C.I. An introduction to military life providing specific ways to better understand, communicate, and effectively interact with military, veterans, and their families. *Fall, Spring.*

SOW 4232 HPA-SOWK 3(3,0)
Social Welfare Policies and Issues: PR: SOW 3284. Development of skills needed to critically analyze social welfare goals, structures, and practices. Proposes improvements in societal resource systems. *Fall.*

SOW 4283 HPA-SOWK 3(3,0)
Social Work and the Law: PR: Junior Standing or C.I. An overview of the legal system focusing on roles social workers play within the courts and legal processes pertaining to family law, mental health, child welfare. *Fall.*

SOW 4322 HPA-SOWK 3(3,0)
Social Work Practice with Groups: PR: SOW 3104 and Junior Standing. Provide theories and skills of generalist social work practice with small groups in a wide range of social service agencies and with diverse client populations. *Spring.*

SOW 4341 HPA-SOWK 3(1,2)
Micro-Level Roles and Interventions in Social Work: PR: SOW 3300, SOW 3352. Study and simulated practice of roles and tasks in systemic problem solving with individuals, families and supportive and remedial groups. *Fall.*

SOW 4343 HPA-SOWK 3(1,2)
Macro-Level Roles and Interventions in Social Work: PR: SOW 3300, SOW 3352. Study and simulated practice of roles and tasks in systemic problem solving to obtain and improve social welfare resources within organizations and communities. *Fall.*

SOW 4510 HPA-SOWK 9(0,28)
Field Education: PR: Completion of required courses in major: GPA 2.5 in major. CR: SOW 4522. Supervised learning experiences in agencies that relate social work practice to theory, requiring 420 clock hours in the field. Graded S/U. *Spring.*

SOW 4515 HPA-SOWK 1-2(1-2,0)
Part Time Field Education Seminar: PR: Completion of all other required social work courses for the major and CR: SOW 4941. Weekly seminar to examine the field experience and to relate theory with practice situations. *Spring.*

SOW 4522 HPA-SOWK 3(2,1)
Field Education Seminar: PR: Completion of required courses in major: CR: SOW 4510. Weekly seminar to examine the field experience and to relate theory with practice situations. *Spring.*

SOW 4602 HPA-SOWK 3(3,0)
Social Work in Health Settings: PR: Junior Standing or C.I. Study of social work roles, interventions, and issues related to helping patients in health settings. *Fall.*

SOW 4645 HPA-SOWK 3(3,0)
Social Services for the Elderly: PR: Junior Standing or C.I. Development of interventive skills for obtaining, providing, and improving social services in behalf of elderly persons and their families. *Fall.*

SOW 4650 HPA-SOWK 3(3,0)
Child Abuse: Treatment and Prevention: PR: SOW 3300 and Admission to BSW program or C.I. The social worker's role and interventions with victims of child abuse and their family members. *Spring.*

SOW 4654 HPA-SOWK 3(3,0)
Children's Services: PR: (Admission to BSW program) or (PR: or CR: SOW 3104). Study of societal responses to children's needs. Development of skills for preventing family breakdown, placing children in alternative care, and reuniting children with their families. *Fall, Spring.*

SOW 4673 HPA-SOWK 3(3,0)
Social Work Practice: The Lesbian, Gay, Bisexual, and Transgendered (+) Experience: PR: SOW 3284, SOW 3300, and Junior standing or C.I.; CR: SOW 3620. Sexual orientation and cultural diversity, policies and resources affecting lesbian, gay, bisexual, transgendered (+) people, community based therapeutic and preventive interventions. *Even Spring.*

SOW 4705 HPA-SOWK 3(3,0)
Prevention and Treatment of Adolescent Substance Abuse: PR: Junior Standing. An in-depth review of prevention, intervention, and treatment, recovery and relapse issues and public policies regarding adolescents with substance abuse problems *Even Fall, Spring.*

SOW 4706 HPA-SOWK 3(3,0)
Intervention with Substance Abusers: PR: Junior Standing. Strategies for working with persons who abuse alcohol, other drugs and substances. *Fall, Even Spring.*

SOW 4730 HPA-SOWK 3(3,0)
Documentation in Social Work Practice: PR: SOW 3300 and SOW 3352. For Social Work majors only. Development of documentation skills for the delivery of social work services in various agency settings. *Fall.*

SOW 4754 HPA-SOWK 3(3,0)
Forensic Social Work Theory and Practice: PR: Junior Standing or C.I. The role of social workers within the courts and criminal justice system. *Occasional.*

SOW 4794 HPA-SOWK 3(3,0)
Social Work with Immigrants and Refugees: PR: SOW 3620 and Junior Standing, or C.I. Social work practice with immigrants and refugees; specifically addressing social policies, programs and legal issues impacting from a national and an international perspective. *Fall.*

SOW 5105 HPA-SOWK 3(3,0)
Human Behavior and Social Environment I: Individual: PR: Admission to MSW program. Study of human development and psychosocial functioning of individuals at various life stages with particular attention to implications of human diversity. *Fall.*

SOW 5106 HPA-SOWK 3(3,0)
Human Behavior and Social Environment II: Social Systems: Study of the patterns and dynamics of families, groups, organizations, and communities from a social work and a systems perspective. *Spring.*

SOW 5132 HPA-SOWK 3(3,0)
Diverse Client Populations: Study of human diversity, focusing on the needs, resources, problems, and service issues of several identified minority client populations. *Spring.*

SOW 5149 HPA-SOWK 3(3,0)
Military and Veteran Culture with Historical Frameworks: PR: Admission to Master of Social Work program or C.I. Thorough analysis of military and veteran systems. Provides the frameworks to assist social workers in better understanding, communicating and practicing with veterans and their families. *Spring.*

SOW 5235 HPA-SOWK 3(3,0)
Social Welfare Policies and Services: Study of societal responses to human needs; forces shaping social welfare systems; introduces frameworks for analyzing social policies and services *Fall.*

SOW 5305 HPA-SOWK 3(3,0)
Social Work Practice I: Generalist Practice: Study of social work functions, knowledge, values, roles and skills; the use of a generalist model of practice. *Fall.*

SOW 5306 HPA-SOWK 3(3,0)
Social Work Practice II: Intervention Approaches: Study of selected social work theories, strategies, and techniques for helping people and improving system responsiveness to human needs. *Spring.*

UCF Courses and Descriptions

SOW 5404 HPA-SOWK 3(3,0)
Social Work Research: Study of group research designs in social work; quantitative analyses; and related ethical issues. *Fall.*

SOW 5538 HPA-SOWK 3(3,0)
Full-Time MSW Generalist Field Education and Seminar I: PR: Admission to Master of Social Work program or C.I.; CR: SOW 5305. Field education for full-time MSW generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U. *Fall.*

SOW 5539 HPA-SOWK 3(3,0)
Full-Time MSW Generalist Field Education and Seminar II: PR: SOW 5538; CR: SOW 5306. Field education for full-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U. *Spring.*

SOW 5565 HPA-SOWK 2(2,0)
Part-Time MSW Generalist Field Education and Seminar I: PR: SOW 5305; CR: SOW 5306. Field education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U. *Fall.*

SOW 5566 HPA-SOWK 2(2,0)
Part-Time MSW Generalist Field Education and Seminar II: PR: SOW 5565; CR: SOW 5306. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U. *Spring.*

SOW 5567 HPA-SOWK 2(2,0)
Part-Time MSW Generalist Field Education and Seminar III: PR: SOW 5566. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 100 clock hours. Graded S/U. *Occasional.*

SPA 3011 HPA-COM SC&DIS 3(3,0)
Speech Science I: Production: PR: SPA 3112. CR: SPA 3011L. Study of how speech is produced, how it is transformed into an acoustic signal, and how that acoustic signal is measured. *Fall, Spring.*

SPA 3011L HPA-COM SC&DIS 1(0,1)
Speech Production lab: PR: SPA 3112. CR: SPA 3011. Physiological and acoustic measurement of speech production. Graded S/U. *Fall, Spring.*

SPA 3101 HPA-COM SC&DIS 3(3,0)
Physiological Bases of Speech and Hearing: PR: or CR: SPA 3471. An introduction to the anatomical, physiological, and physical elements underlying the communication process. *Fall, Spring.*

SPA 3104 HPA-COM SC&DIS 3(3,0)
Neural Bases of Communication: PR: or CR: SPA 3471. Structures and functions of the nervous system involved in communication and its disorders. *Fall, Spring.*

SPA 3112 HPA-COM SC&DIS 3(3,0)
Basic Phonetics: CR: SPA 3112L. Physiological descriptions and visual notation of standard speech patterns and regional dialects. *Fall, Spring.*

SPA 3112L HPA-COM SC&DIS 1(0,1)
Basic Phonetics Lab: CR: SPA 3112. Practice in the transcription of normal and deviant speech samples. Graded S/U. *Fall, Spring.*

SPA 3123 HPA-COM SC&DIS 3(3,0)
Speech Science II: Perception: PR: SPA 3112, SPA 3011. CR: SPA 3123L. How the perception of human speech differs from that of other auditory signals. *Fall, Spring.*

SPA 3123L HPA-COM SC&DIS 1(0,1)
Speech Perception Lab: CR: SPA 3123. Laboratory techniques used in investigating human speech perception. Graded S/U. *Fall, Spring.*

SPA 3412 HPA-COM SC&DIS 3(3,0)
Brain Stories: A Communication Disorders Perspective: PR: SPA 3471 (may be taken as corequisite) or PSY 2012 or C.I. A case study approach to communicative-cognitive disorders due to brain injury. *Fall, Spring.*

SPA 3471 HPA-COM SC&DIS 3(3,0)
Communication Disorders in Literature and Media: PR: PSY 2012 or SYG 2000. Exploration of communication disorders in literature and media, emphasizing psychosocial, academic, vocational, and familial challenges as well as society's perceptions of individuals with communication disorders. *Fall, Spring.*

SPA 3472 HPA-COM SC&DIS 3(3,0)
Guidance of Young Children with Communication Disorders: PR: SPA 3471. Social/emotional and behavioral difficulties of children with communication disorders; positive child guidance and behavioral management strategies for clinicians and parents. *Fall, Spring.*

SPA 4032 HPA-COM SC&DIS 3(3,0)
Audiology: PR: SPA 3101 and Junior Standing, or C.I. Physics of sound, anatomy of hearing mechanism, pure tone audiometry, hearing aids, problems of the deaf and hard of hearing. Clinical skills development required. *Fall, Spring.*

SPA 4241 HPA-COM SC&DIS 3(3,0)
Genetic Aspects of Communication Disorders: PR: BSC 2010C, Junior or senior standing. Theoretical framework for understanding human genetics and the genetic aspects of communication and feeding disorders. *Spring.*

SPA 4321 HPA-COM SC&DIS 3(3,0)
Audiologic Rehabilitation: PR: SPA 3011, SPA 3123, and SPA 4032. Principles and procedures in the use of residual hearing, auditory training, speech reading, and the use of hearing aids. *Fall, Spring.*

SPA 4326 HPA-COM SC&DIS 3(3,0)
Hearing Disorders Across the Lifespan: PR: SPA 3123, SPA 4032 and Senior Standing, or C.I. Primary and secondary consequences of hearing loss across the lifespan, including hearing impairments and communication limitations. *Fall, Spring.*

SPA 4400 HPA-COM SC&DIS 3(3,0)
Language Disorders Across the Life Span: PR: LIN 3716 and Junior Standing, or C.I. Etiology, assessment, and management of language disorders in children, adolescents, and adults, including those associated with autism, traumatic brain injury, learning disabilities, and dementia. *Fall, Spring.*

SPA 4476 HPA-COM SC&DIS 3(3,0)
Speech Disorders Across the Lifespan: PR: SPA 3101, and SPA 3112 and Junior Standing, or C.I. Causes and characteristics of speech and swallowing disorders in children and adults, including those affecting articulation, phonation, resonance, fluency, and feeding and swallowing. *Fall, Spring.*

SPA 4478 HPA-COM SC&DIS 3(3,0)
Multicultural Aspects of Communication Disorders & Differences: PR: LIN 3716, Senior Standing, or C.I. Cultural and linguistic diversity among individuals with communication disorders and differences. Special emphasis on African, Hispanic, Asian, and Native American. *Fall, Spring.*

SPA 4555 HPA-COM SC&DIS 3(3,0)
Counseling in Communication Disorders: PR: SPA 3471 or C.I. Practical interviewing and counseling in the area of communication disorders. *Fall, Spring.*

SPA 4634 HPA-COM SC&DIS 3(3,0)
Educational Implications of Deafness: PR: ASL 2510. Impact of deafness on the educational process. The impact of deafness on the individual, their family, and the classroom will be discussed. *Occasional.*

SPA 4803 HPA-COM SC&DIS 3(3,0)
Research Methods in Communication Sciences and Disorders: PR: STA 2014C or STA 2023. Approaches, methods, and techniques of research in Communication Sciences and Disorders are considered through lecture, discussion, and group participation. *Fall, Spring.*

SPA 4870C HPA-COM SC&DIS 3(2,1)
Capstone Course: PR: or CR: All required CS&D courses. Integration of essential topics in communication sciences and disorders through curriculum content reviews and community experiences. *Fall, Spring.*

SPA 4948 HPA-COM SC&DIS 3(0,3)
Community Internship: CR: SPA 4326 and senior standing. Supervised interaction and planned activities with individuals experiencing problems with hearing, balance, or the disorders of hearing in community settings including clinics, hospitals, etc. Course may be repeated for credit up to two times. *Fall, Spring.*

SPA 5554 HPA-COM SC&DIS 3(3,0)
Counseling in Communicative Disorders: PR: Senior Status or C.I. Interviewing and counseling for individuals with communication disorders and their families. *Spring.*

SPB 3003 BA-BA 3(3,0)
Introduction to Sport Business Management: PR: Sophomore Standing. The sport industry and the principles and applications of sport business management in professional, collegiate, and Olympic sport. *Fall, Spring.*

SPB 3603 BA-BA 3(3,0)
Diversity and Social Issues in Sport Business Management: PR: SPB 3003 with a "C" (2.0) or better. Diversity, social issues, social responsiveness, and financial performance in professional, collegiate, and Olympic sport. *Occasional.*

SPB 3823 BA-BA 3(3,0)
The Role of Business Entrepreneurship in Sports/Entertainment: PR: SPB 3003 with a "C" (2.0) or better. Analyzes business entrepreneurship in sport/entertainment by examining various entrepreneurs and cultural movements in business organizations. Theories/concepts of business and entrepreneur behavior are applied. *Occasional.*

SPB 4304 BA-BA 3(3,0)
Sports Event and Facility Management: PR: SPB 3003 with a "C" (2.0) or better. The principles of facility and event management in sport business and their applications in professional, collegiate, and Olympic sport. *Occasional.*

SPB 4804 BA-BA 3(3,0)
Sport Business and Media: PR: SPB 3003 with a "C" (2.0) or better. The structure and evolution of the interrelationship between sport and media and their business implications. *Occasional.*

SPC 1603C COS-COMM 3(1.5,1.5)
Fundamentals of Technical Presentations: PR: Priority will be given to students whose major requires this course. Communication theory and its application to preparing and delivering technical information in public speaking situations. *Fall, Spring.*

SPC 1603H COS-COMM 3(3,0)
Honors Fundamentals of Technical Presentation: PR: Permission of Honors. Communication theory and its application to preparing and delivering technical information in public speaking situations. With honors-level content. *Occasional.*

SPC 1608 COS-COMM 3(3,0)
Fundamentals of Oral Communication: PR: Priority will be given to students whose major requires this course. Communication theory and its application to preparing and delivering public speeches. *Fall, Spring.*

SPC 1608H COS-COMM 3(3,0)
Honors Fundamentals of Oral Communication: PR: Consent of Honors. Communication theory and its application to preparing and delivering public speeches. University Honors program. Same as SPC 1608 with honors-level content. *Occasional.*

SPC 2942 COS-COMM 1-3(1-3,0)
Debate Practicum: Training and participation in intercollegiate debate. Graded S/U. May be used in the degree program a maximum of 3 times. *Occasional.*

SPC 3301 COS-COMM 3(3,0)
Interpersonal Communication: PR: or CR: COM 3311, or C.I. Nature of the communication process; variables affecting the process and the individuals involved. Analysis of communication models, interactant behavior, situational cues, verbal and non-verbal messages. *Fall, Spring.*

SPC 3445 COS-COMM 3(3,0)
Leadership Through Oral Communication: PR: or CR: COM 3311 or C.I. Investigation of leadership in oral communication situations, principles of effective leadership, and leadership in problem solving. *Fall, Spring.*

SPC 3513C COS-COMM 3(1,2)
Argumentation and Debate: PR: One of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. Study and practice in the preparation and delivery of argumentative speeches emphasizing argument, evidence, and organization. *Occasional.*

SPC 3513H COS-COMM 3(3,0)
Honors Argumentation and Debate: PR: Consent of Honors and one of the following: SPC 1608, SPC 1603C, COM 1000, or C.I. Advanced study and practice in the preparation and delivery of argumentative speeches emphasizing argument, evidence, and organization. *Occasional.*

SPC 4331 COS-COMM 3(3,0)
Nonverbal Communication: PR: or CR: COM 3311, or C.I. Review of current behavioral research in such areas as proxemics, kinesics, physical characteristics, tactile communication, and paralanguage. Lectures are supplemented by frequent nonverbal exercises. *Fall, Spring.*

SPC 4426 COS-COMM 3(3,0)
Group Dynamics: PR: or CR: COM 3311, or C.I. Human behavior in group situations. *Fall, Spring.*

SPC 4540 COS-COMM 3(3,0)
Persuasion and Communication: PR: or CR: COM 3311, or C.I. A survey of the immediate and direct ways in which persuasive communication and social groups come to influence attitudes. *Fall, Spring.*

SPM 3130 ED-E&HS 3(3,0)
Aquatic Management: PR: Admission to the Sport and Exercise Science Program or Community Sport and Fitness Minor, and minimum overall 2.5 GPA. Requisite knowledge for developing and operating aquatics programs safely and effectively. *Fall, Spring.*

SPM 3204 ED-E&HS 3(3,0)
Sports and Ethics: PR: Admission to Sport and Exercise Science program or Coaching Minor and minimum overall 2.5 GPA. An exploration into ethics and its influence on sports. *Fall, Spring.*

SPM 3415 ED-E&HS 3(3,0)
Public Relations in Sport and Exercise Science: PR: Admission to the Sport and Exercise Science Program or Community Sport and Fitness Minor, and minimum overall 2.5 GPA. Examining the role of public relations and media with specific application to sport and exercise science professionals. *Fall, Spring.*

SPM 3504 ED-E&HS 3(3,0)
Fiscal and Facilities: Issues in Sport and Exercise Science: PR: Admission to the Sport and Exercise Science Program or Community Sport and Fitness Minor, and minimum overall 2.5 GPA. Design, maintenance, and operation of sport and exercise science facilities with a specific focus on fiscal management. *Fall, Spring.*

SPM 4723 ED-E&HS 3(3,0)
Legal Issues in Sport and Exercise Science: PR: Admission to Sport and Exercise Science program and minimum overall 2.5 GPA. Examination of the legal issues and problems encountered by sport and exercise science professionals. *Fall, Spring.*

SPM 5155 ED-E&HS 3(3,0)
Introduction to Sports Administration: PR: C.I. This course will provide an overview of the sports industry. Fundamental leadership administration and research theories as well as information on current issues are emphasized. *Occasional.*

SPM 5308 ED-E&HS 3(3,0)
Marketing and Promoting Sports and Fitness Programs: PR: C.I. Introduces students to all aspects of sports marketing including planning, organizing, marketing, evaluating, and conducting special and sport events. *Occasional.*

SPM 5506 ED-CFCS 3(3,0)
Financial Issues in Sports and Fitness: PR: C.I. Examines basic financial concepts including understanding annual reports, developing budgets, financial analysis, and examining methods for increasing revenue and controlling cost in the sport industry. *Occasional.*

SPN 1120C CAH-LANG 4(4,1)
Honors Elementary Spanish Language and Civilization I: PR: Permission of Honors. Introduces the student to Spanish culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. Honors-level content. *Occasional.*

SPN 1120C CAH-LANG 4(3,1)
Elementary Spanish Language and Civilization I: Introduces the student to Spanish culture through the major language skills: listening, speaking, reading and writing. Open only to students with no experience in this language. *Fall, Spring.*

SPN 1121C CAH-LANG 4(3,1)
Elementary Spanish Language and Civilization II: PR: SPN 1120C or equivalent. Continuation of SPN 1120C. *Fall, Spring.*

SPN 1121C CAH-LANG 4(4,1)
Honors Elementary Spanish Language and Civilization II: PR: Permission of Honors and SPN 1120C or equivalent. Same as SPN 1121C with honors-level content. *Occasional.*

SPN 1150C CAH-LANG 8(4,4)
Intensive Beginning Spanish: Combines SPN 1120C and SPN 1121C in an intensive one-semester unit. Emphasis on speaking, listening, reading, and writing Spanish. For students with little or no background in the language. *Occasional.*

SPN 2200 CAH-LANG 3(3,1)
Intermediate Spanish Language and Civilization I: PR: SPN 1121C or equivalent. Development of language skills and cultural knowledge at the intermediate level. *Fall, Spring.*

SPN 2200H CAH-LANG 3(3,1)
Honors Intermediate Spanish: PR: SPN 1121C or SPN 1121H and Consent of Honors. Development of language skills and cultural knowledge at the intermediate level. With Honors content. *Fall.*

SPN 2201 CAH-LANG 3(3,1)
Intermediate Spanish Language and Civilization II: PR: SPN 2200 or equivalent. Continuation of SPN 2200, with emphasis on Spanish civilization. *Occasional.*

SPN 2241 CAH-LANG 3(3,0)
Spanish Conversation: PR: SPN 2201 or equivalent. Development of skills in conversation and comprehension through practice. *Occasional.*

SPN 2340 CAH-LANG 3(3,0)
Spanish for Native Speakers: PR: Must be a native speaker. Intensive Spanish for native speakers who have had little or no formal training in the language. *Occasional.*

SPN 2341 CAH-LANG 3(3,0)
Advanced Spanish for Native Speakers: PR: SPN 2340 or C.I. This course is the continuation of SPN 2340 geared towards native speakers and will complete the remaining grammatical topics as well as emphasize composition skills. *Occasional.*

SPN 2513 CAH-LANG 3(3,0)
Modern Spanish Civilization Study Abroad: PR: SPN 1120C or equivalent. This intensive course will focus on modern Spanish culture using examples from present day society. Cultural visits and realia are essential components of this course. *Occasional.*

SPN 3140 CAH-LANG 3(3,0)
Business Spanish I: PR: SPN 2200 and SPN 2201 or equivalent. Basic business terminology, business culture, and business topics related to the Hispanic World. *Odd Fall.*

SPN 3141 CAH-LANG 3(3,0)
Business Spanish II: PR: C.I. Continuation of Business Spanish I. *Even Spring.*

SPN 3142 CAH-LANG 3(3,0)
Business Spanish III: PR: C.I. Continuation of Business Spanish II. *Even Fall.*

SPN 3234 CAH-LANG 3(3,0)
Advanced Directed Readings: PR: SPN 2201 or C.I. Use of literary and general Spanish texts to develop reading comprehension and analysis skills. Course intended for non-natives and heritage speakers of Spanish. *Fall, Spring.*

SPN 3300 CAH-LANG 3(3,0)
Advanced Spanish Grammar and Composition: PR: SPN 2201 or equivalent. Advanced Spanish grammatical topics, idiomatic expressions, and continued development of writing skills based on the newly acquired concepts. *Fall, Spring.*

SPN 3343 CAH-LANG 3(3,0)
Advanced Rhetoric for Spanish Communication: PR: SPN 2201, or C.I. Designed for Spanish native speakers and advanced non-native speakers to improve their language skills. Students work on projects individually or in groups according to their own interests. *Occasional.*

SPN 3344 CAH-LANG 3(3,0)
Advanced Spanish Native Fluency I: PR: SPN 3300 or C.I. Advanced grammatical topics and composition skills for native or near-native fluency speakers. *Fall.*

SPN 3345 CAH-LANG 3(3,0)
Advanced Spanish Native Fluency II: PR: SPN 3344. Continuation of Advanced Spanish Native Fluency I emphasizing the remaining grammatical topics and composition skills. *Spring.*

SPN 3402 CAH-LANG 3(3,0)
Practice in Modern Spanish Grammar: PR: SPN 2241 or 3420. This intensive Spanish course will provide the advanced student with practice and drill in modern Spanish using native texts. *Occasional.*

SPN 3420 CAH-LANG 3(3,0)
Spanish Composition: PR: SPN 2201 or equivalent. Development of skills in composition. *Fall, Spring.*

SPN 3512 CAH-LANG 3(3,0)
Contemporary Spanish Culture Abroad: PR: SPN 2241 or SPN 3420. This course will focus on contemporary Spanish culture presented through classroom lectures and discussions, assigned reading and scheduled activities. *Occasional.*

SPN 3760 CAH-LANG 3(3,0)
Advanced Spanish Oral Communication: PR: SPN 2201 or SPN 2240 or equivalent. Vocabulary building with systematic training in diction and locution. Speeches and oral presentations as well as production and delivery of real-life dialogues. *Fall, Spring.*

SPN 3850 CAH-LANG 3(3,0)
Structure of the Spanish Language: PR: SPN 3420. Linguistic theory applied to analysis of Spanish language. Includes systematic study of sound patterns, semantics, word formations, and socializations. *Occasional.*

SPN 3852 CAH-LANG 3(3,0)
Bilinguismo: PR: SPN 3760, SPN 3420 and SPN 3300 or C.I. Spanish-English bilingualism in the United States. Models of language acquisition in bilinguals, domains of language use, maintenance, shift, transfer, diversity, attitudes, code-switching, attrition and contact. *Occasional.*

SPN 4143 CAH-LANG 3(3,0)
Business Spanish IV: PR: C.I. Advanced course in business terminology and development of advanced language skills. *Odd Spring.*

SPN 4410 CAH-LANG 3(3,0)
Advanced Spanish Conversation: PR: SPN 3760, SPN 3420, and SPN 3300 or C.I. Advanced conversation on directed topics from various disciplines: literature, art, psychology, philosophy, music, business, and the sciences. *Fall.*

SPN 4421 CAH-LANG 3(3,0)
Advanced Spanish Composition: PR: SPN 3300, SPN 3420, SPN 3760 or C.I. Readings and written imitations of modern literary styles in the form of themes, sketches, poems, and original stories. *Even Spring.*

UCF Courses and Descriptions

SPN 4510 CAH-LANG 3(3,0)
Spanish Civilization and Culture: PR: SPN 3760, SPN 3420 and SPN 3300 or C.I. A study of Spanish civilization and culture from Pre-Roman times to the present. Conducted in Spanish. *Occasional.*

SPN 4520 CAH-LANG 3(3,0)
Latin American Civilization and Culture: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. An overview of the currents in Latin American culture and civilization from the Pre-Columbian period to the present. Conducted in Spanish. *Occasional.*

SPN 4780 CAH-LANG 3(3,0)
Spanish Phonetics: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Students will learn the basic principles of Spanish pronunciation and perfect the correct punctuation of Spanish through intensive practice and oral drill. *Occasional.*

SPN 4800 CAH-LANG 3(3,0)
The Syntax of Spanish: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Generative approach to syntactic theory applied to the Spanish language. Analysis and discussion of word order in the nominal, verbal, and sentential domains. *Occasional.*

SPN 4801 CAH-LANG 3(3,0)
Spanish Morphology: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Types of roots, affixes and words resulting from applying morphological rules in Spanish, covering the nominal, adjectival, verbal, pronominal and adverbial domains, and acronyms. *Occasional.*

SPN 5502 CAH-LANG 3(3,0)
Hispanic Culture of the United States: PR: Graduate status or senior standing or C.I. An analysis of the Hispanic culture of the United States, past and present. *Occasional.*

SPN 5505 CAH-LANG 3(3,0)
Spanish Peninsular Culture and Civilization: PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish culture and civilization. *Occasional.*

SPN 5506 CAH-LANG 3(3,0)
Spanish American Culture and Civilization: PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish American culture and civilization. *Occasional.*

SPN 5705 CAH-LANG 3(3,0)
Introduction to Spanish Linguistics: PR: Graduate status or senior standing or C.I. An introduction to main concepts and methods of analyses focusing on Spanish morphology, syntax, semantics, and phonology as well as dialectology and sociolinguistics. *Odd Fall.*

SPN 5825 CAH-LANG 3(3,0)
Spanish Dialectology: PR: Graduate status or senior standing or C.I. This course is a survey of the diversity found within the Spanish language with respect to phonological constraints, morphosyntax, second language influences, and historical development. *Occasional.*

SPN 5845 CAH-LANG 3(3,0)
History of the Spanish Language: PR: Graduate status or senior standing or C.I. An overview of linguistic characteristics of Latin and its evolution into Spanish with historical development of phonetic, morphological, and syntactic properties. *Occasional.*

SPN 5920 CAH-LANG 3(3,0)
AP Spanish Language: PR: Graduate status or senior standing or C.I. Participants will enhance their knowledge of the language and culture of Spanish-speaking peoples and develop further proficiency in listening, comprehension, speaking, reading, and writing. *Occasional.*

SPS 5177 ED-CFCS 3(3,0)
Enhancing Individual and Student IQ: PR: Graduate standing or C.I. Students will understand IQ malleability and methods of enhancing IQ. Students will analyze acquisition of knowledge gained from methods of scientific inquiry regarding individual differences. *Even Spring.*

SPS 5605 ED-CFCS 3(3,0)
Building and Improving Relationship and Emotional Intelligence: PR: Graduate standing or C.I. Students will learn to develop and improve relational and emotional intelligence and demonstrate an understanding of social emotional learning and how it enhances psychosocial wellbeing. *Odd Spring.*

SPT 3414 CAH-LANG 3(3,0)
Spanish for Tourism I: PR: SPN 3420. Students will learn to speak and understand Spanish specific for the tourism industry including field-specific techniques of communication, multicultural environments, an understanding of the Spanish culture, and the needs of bilingual tourists. *Occasional.*

SPT 3800 CAH-LANG 3(3,0)
Spanish Translation and Interpretation: PR: Completion of 2000 level sequence or equivalent. Introduction to translation and interpretation, practical applications of theory applied to professional written and audio texts from Spanish to English and from English to Spanish. *Fall/Spring.*

SPT 3805 CAH-LANG 3(3,0)
Spanish Translation and Interpretation for Mass Communication: PR: SPN 3420. Translation and interpretation in mass communication using all forms of media. *Even Spring.*

SPT 3809 CAH-LANG 3(3,0)
Medical Spanish Translation/Interpretation: PR: SPN 2241 and SPN 3420. The basic Spanish terminology, techniques and ethics in the field of medical translation and interpretation. *Odd Fall.*

SPT 3820 CAH-LANG 3(3,0)
Computer Assisted Translation Tools: PR: SPN 3420 or C.I. Provides hands on experience with CAT (Computer Assisted Translation) tools that external translation and interpretation agencies require in their hiring profiles. *Occasional.*

SPT 3831 CAH-LANG 3(3,0)
Spanish Legal Translation and Interpretation: PR: SPN 3420 and SPN 2241. The terminology, procedures and ethics required to be a Spanish language court interpreter and translator in the legal field. May be repeated for credit. *Even Fall.*

SPT 4801 CAH-LANG 3(3,0)
Spanish Translation Practicum: PR: SPT 3800. Development of translation and interpretation skills in a professional environment. Concentration in legal, medical, and business areas. *Occasional.*

SPW 3000H CAH-LANG 3(3,0)
Honors Nobel Prize Literature: Spain and Latin America: PR: Permission of Honors and Junior standing or C.I. Students will analyze, discuss and research English translations of Spanish and Latin American Nobel-Prize-Winning writers. Through readings, students will explore the universality of Spanish literature. *Occasional.*

SPW 3100 CAH-LANG 3(3,0)
Survey of Spanish Literature I: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Main literary currents and works from the Middle Ages through the Eighteenth century. *Fall.*

SPW 3101 CAH-LANG 3(3,0)
Survey of Spanish Literature II: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Main literary currents and works of the Nineteenth century to the present. *Spring.*

SPW 3130 CAH-LANG 3(3,0)
Survey of Latin-American Literature I: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Main literary currents and works from the colonial period to Nineteenth Century Romanticism. *Fall.*

SPW 3131 CAH-LANG 3(3,0)
Survey of Latin-American Literature II: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. Main literary currents and works of the Nineteenth century from Realism to the present. *Spring.*

SPW 3320 CAH-LANG 3(3,0)
Modern Hispanic Theatre Workshop I: PR: C.I. Introduction to fundamental actor's technique and practice in Spanish. Short scenes will be performed in class. *Occasional.*

SPW 3321 CAH-LANG 3(3,0)
Modern Hispanic Theatre Workshop II: PR: SPW 3320. Participation in a theatre production of a play in Spanish. Open to majors in Spanish, Theatre and any technical performance. *Occasional.*

SPW 3370 CAH-LANG 3(3,0)
Spanish Short Story: PR: SPN 3760, SPN 3420 and SPN 3300, or C.I. A study of representative 19th and 20th-century Spanish short stories and their authors. *Occasional.*

SPW 4272 CAH-LANG 3(3,0)
20th Century Spanish Novel: PR: SPW 3101 or SPW 3131 or C.I. Major works by the leading authors of the 20th century. Texts selected are studied not only for their aesthetic value, but also in terms of their historical and cultural significance. *Occasional.*

SPW 4310 CAH-LANG 3(3,0)
Golden Age Drama: PR: SPW 3100 or C.I. A study of the drama of the Golden Age, with special emphasis on Lope, Tirso, Alarcon, and Calderon. The controversies of the Spanish theatre and its influence abroad are examined. *Occasional.*

SPW 4322 CAH-LANG 3(3,0)
Contemporary Iberian Theatre: PR: SPW 3101 or C.I. A study of the major playwrights and tendencies in contemporary Iberian theatre. *Occasional.*

SPW 4364 CAH-LANG 3(3,0)
Latin-American Narrative/Essay: PR: SPW 3100 or SPW 3130 or SPW 3131 or SPW 3370 or C.I. Study of Latin-American narrative/essay (changing topics by semester) with emphasis in 20th century texts, contrasting techniques, procedures, and literary theories. May be repeated for credit only when course content is different. *Occasional.*

SPW 4381 CAH-LANG 3(3,0)
Latin-American Theatre/Poetry: PR: SPW 3100 or SPW 3101 or SPW 3130 or SPW 3131 or SPW 3370. Study of Latin-American theatre/poetry (changing topics by semester) with emphasis in 20th century texts, contrasting techniques, procedures, and literary theories. May be repeated for credit only when course content is different. *Occasional.*

SPW 4382 CAH-LANG 3(3,0)
Central American Literature: PR: SPW 3131 or C.I. This course familiarizes the student with literary works of prominent writers from Central America. It covers the different literary periods within Central America literary history. Taught in Spanish. *Occasional.*

SPW 4450 CAH-LANG 3(3,0)
Spanish Literary Theory: PR: SPW 3100 and SPW 3101, or SPW 3130 and SPW 3131, or C.I. A study of textual criticism with emphasis in the theory of genre. *Occasional.*

SPW 4460 CAH-LANG 3(3,0)
Nineteenth Century Spanish Literature: PR: SPW 3101 or C.I. A study of the representative authors and works in Spanish Romanticism, Realism, and Naturalism. *Occasional.*

SPW 4604 CAH-LANG 3(3,0)
Cervantes: PR: SPW 3100 or C.I. Don Quixote. *Occasional.*

SPW 4720 CAH-LANG 3(3,0)
The Generation of 1898: PR: SPW 3101 or C.I. A study of the generation's main authors and their works. *Occasional.*

SPW 4730 CAH-LANG 3(3,0)
Hispanic Literature of the United States: PR: SPW 3101 or SPW 3131 or C.I. Reading and study of outstanding works written by Hispanic writers of the United States. *Occasional.*

SPW 4770 CAH-LANG 3(3,0)
Caribbean Spanish Literature: PR: SPW 3101 or SPW 3131 or C.I. An overview of the literature of the Spanish-speaking Caribbean countries from colonial times to the present. *Occasional.*

SPW 4772 CAH-LANG 3(3,0)
Black Presence in Contemporary Latin American Literature: PR: SPW 3101 or SPW 3131 or C.I. Analysis and discussion of representative contemporary work of authors who have included the black character as part of their narrative. *Occasional.*

SPW 4773 CAH-LANG 3(3,0)
Puerto Rican Literature: PR: SPW 3100 and SPW 3101 or SPW 3130 and SPW 3131. Puerto Rican Literature from XIX Century to present. Conducted in Spanish. *Occasional.*

SPW 5741 CAH-LANG 3(3,0)
Contemporary Spanish American Southern Cone Literature: PR: Enrolled in Spanish M.A. Program or C.I. Regional as well as international literary cultures and disciplines in southern cone literature. *Occasional.*

SPW 5795 CAH-LANG 3(3,0)
Jewish Culture in Latin America: PR: Spanish M.A. program or graduate student proficient in Spanish. History of the arrival of Jews in Latin America and studies of Latin American Jewish authors and literature. Will be taught in Spanish, including all readings. *Occasional.*

SSE 3312 ED-TL&L 3(3,0)
Teaching Social Science in the Elementary School: PR: EDG 4410 or C.I. Selected themes, problems, and concepts; organizing for instruction; techniques; evaluation procedures. *Fall, Spring.*

SSE 4323 ED-TL&L 3(3,0)
Teaching Civics in Florida: PR: POS 2041 and admission to Civics Teaching Certificate. Pedagogical skills for teaching civics including state mandates for teaching middle school civics and preparing middle school students for the Civics End of Course Assessment. *Spring.*

SSE 4361 ED-TL&L 3(3,0)
Social Science Instructional Analysis: PR: EDG 4410 and SSE 4936. CR: SSE 3940. Analysis of secondary (grades 6-12) social science instructional programs including development of objectives, materials, processes, and assessment procedures in light of current research and practice. *Fall, Spring.*

SSE 4395 ED-TL&L 3(3,0)
Teaching with Primary Sources: PR: Minimum 2.5 overall GPA. This course focuses on the creation, teaching, and evaluation of effective instructional practices that integrate primary sources into the teaching of social studies content. *Occasional.*

SSE 4936 ED-TL&L 3(3,0)
Programs in Teaching Social Science: PR: Admission to the Bachelor of Science in Social Science Education program. Special programs, strategies, and materials for middle and secondary social science majors. *Fall.*

SSE 5391 ED-TL&L 3(3,0)
Global Education: Theory and Practice: PR: Graduate standing or C.I. Examines the theoretical underpinnings of teaching about the world along with a variety of theoretically grounded teaching strategies for engaging students in global education. *Spring.*

SSE 5776 ED-TL&L 3(3,0)
Democracy and Education: PR: Graduate standing or C.I. Explores the intersection of theory and practice with regard to promoting democratic life in schools. Will examine competing theories of democracy and education, investigate problem areas in schools related to democracy, and consider examples of practice. *Fall.*

SSE 5790 ED-TL&L 3(3,0)
Inquiry and Instructional Analysis in Social Science Education: PR: EDG 6415 or admission to Teacher Leadership MEd program or Initial Teacher Professional Preparation certificate. Study of instructional programs in social science education and related scholarship; development of an inquiry about the intersection of theory and practice in social science teaching. *Occasional.*

STA 1063C COS-STAT 3(2,1)
Basic Statistics Using Microsoft Excel: Applications of Excel; manipulating data; single variable graphs and statistics; scatterplots; probability distributions; statistical inference. *Fall, Spring.*

STA 2014C COS-STAT 3(2,1)
Principles of Statistics: Introduction to statistical concepts in modern society. Basic principles, frequency distributions, measures of location and dispersion, probability, statistical inference. The "NC" grading policy applies to this course. *Fall, Spring.*

STA 2023 COS-STAT 3(3,0)
Statistical Methods I: PR: MGF 1106 or any other MAC course. First methods course introducing probability and statistical inference, including estimation, hypothesis testing, binomial and normal distributions, sample size. *Fall, Spring.*

STA 2023H COS-STAT 3(3,0)
Honors Statistical Methods I: PR: Permission of Honors; Calculus desired by not necessary. Same as STA 2023 with honors-level content. *Fall, Spring.*

STA 3032 ECS-IEMS 3(3,0)
Probability and Statistics for Engineers: PR: MAC 2312 with a grade of "C" (2.0) or better. Axioms of probability; combinatorial and geometrical probability; probability distributions; measures of location and dispersion; sampling and sampling distributions; estimation and tests of hypotheses; engineering applications. *Fall, Spring.*

STA 3032H ECS-IEMS 3(3,0)
Honors Probability and Statistics for Engineers: PR: MAC 2312 with a grade of "C" (2.0) or better and honors standing. Fundamental probability and statistics principles, the underlying assumptions, the procedures for implementing and interpreting them. With honors content. *Fall, Spring.*

STA 3096 COS-STAT 3(3,0)
Statistical Graphics: PR: STA 2023 or STA 3032 and a knowledge of a programming language. Principles of graph construction, graphical perception, graphical methods, computer programs for graph construction. *Occasional.*

STA 4102 COS-STAT 3(3,0)
Computer Processing of Statistical Data: PR: STA 4163 and knowledge of a programming language. Use of packages such as SAS, BMD, SPSS for data validation, description and analysis of data, regression and analysis of variance and covariance. *Fall.*

STA 4130 COS-STAT 3(3,0)
Life Contingencies I: PR: STA 4183 (or old number STA 3183). Economics of insurance, utility theory, single premiums for insurance and annuities in both discrete and continuous cases. Net annual premium and net premium reserves. *Fall.*

STA 4131 COS-STAT 3(3,0)
Life Contingencies II: PR: STA 4130 (or old number STA 3130). Multiple-decrement and multi-life models. Insurance models including expenses. Modified reserves. Cash values, insurance options and asset shares. Non forfeiture benefits and dividends. *Spring.*

STA 4133 COS-STAT 3(3,0)
Loss Models I: PR: MAC 2313 and STA 4322. Distributional quantities, characteristics of actuarial models, continuous models, discrete distributions, frequency and severity with coverage modifications, aggregate Joss models, estimation for modified data, frequentist estimation. *Fall.*

STA 4135 COS-STAT 3(3,0)
Loss Models II: PR: STA 4133. Frequentist estimation for discrete distributions, Bayesian estimation, model selection, simulation, credibility for aggregate losses, pure premiums and loss ratios, EPV, VHM, Buhlmann and Buhlmann-Straub credibility. *Spring.*

STA 4163 COS-STAT 3(3,0)
Statistical Methods II: PR: STA 2023 or STA 3032. Not open to students with credit in STA 4165. Methods of analyzing data, statistical models, estimation, tests of hypotheses, regression and correlation, an introduction to analysis of variance, chi-square, and nonparametric methods. *Fall, Spring.*

STA 4164 COS-STAT 3(3,0)
Statistical Methods III: PR: STA 4163. A continuation of STA 4163, including further study of regression, analysis of variance and covariance and multiple comparisons. *Fall, Spring.*

STA 4173 COS-STAT 3(3,0)
Biostatistical Methods: CR: STA 4163 or C.I. Applied statistical principles and methods applied to problems in medical, biological, and health sciences. *Occasional.*

STA 4183 COS-STAT 3(3,0)
Theory of Interest: PR: MAC 2312 (or equivalent) and STA 2023. Measurement of simple and compound interests, accumulated and present values factors. Annuities certain, yield rates, amortization schedules and sinking funds. Bonds, securities and related funds. *Fall.*

STA 4184 COS-STAT 3(3,0)
Introduction to Derivative Markets: PR: STA 4183 or C.I. Cash flow and profit for simple options and forwards, hedging strategies, Black-Scholes option pricing, simple swaps, portfolio management with derivatives, duration analysis, callable bonds. *Spring.*

STA 4186 COS-STAT 3(3,0)
Theory of Derivative Pricing: PR: STA 4184 or C.I. Assumptions of derivative pricing, put-call parity, binomial pricing, market making, delta hedging, exotic options, distributions, Monte Carlo distributions, Brownian motion, interest rate models. *Spring.*

STA 4222 COS-STAT 3(3,0)
Sample Survey Methods: PR: STA 2023 or STA 3032. Constructing and analyzing survey designs. Sampling and non-sampling errors. Simple random, stratified, systematic, and multiphase sampling. Methods of estimation. *Occasional.*

STA 4321 COS-STAT 3(3,0)
Statistical Theory I: PR: STA 2023 or STA 3032; CR: MAC 2313. Probability axioms, discrete and continuous sample spaces, conditional probability, independence, one-dimensional random variables, moment generating functions, transformations, jointly distributed random variables. *Fall.*

STA 4322 COS-STAT 3(3,0)
Statistical Theory II: PR: STA 4321. Conditional distributions, sums of random variables. Chebyshev's inequality, central limit theorem, method of movements, maximum likelihood, confidence intervals, hypothesis testing, transformations of two random variables. *Spring.*

STA 4502 COS-STAT 3(3,0)
Nonparametric Statistical Methods: PR: STA 2023 or STA 3032. Distribution-free tests on location and dispersion, goodness of fit tests, tests of independence, measures of association, nonparametric analysis of variance. *Occasional.*

STA 4504 COS-STAT 3(3,0)
Categorical Data Analysis: PR: STA 4163. Two-way and three-way contingency tables, odds ratios, partial association, logistic regression and log linear models. *Occasional.*

STA 4641 COS-STAT 3(3,0)
Risk Theory and Decision: PR: STA 4322. Individual and collective risk models for short terms and for extended periods, applications of risk theory to actuarial problems. Risk factors and their financial effects. *Occasional.*

STA 4664 COS-STAT 3(3,0)
Statistical Quality Control: PR: STA 2023 or STA 3032. Statistical concepts and methods applied to the control of quality of manufactured products. *Occasional.*

STA 4674 COS-STAT 3(3,0)
Life Testing Analysis: PR: STA 4322. Models of survival analysis including random and non-random censoring and truncation. Parametric estimation of life distribution. Nonparametric methods. Grouped data. *Occasional.*

STA 4852 COS-STAT 3(3,0)
Applied Time Series: PR: STA 4163. Forecasting methods, time series analysis, stationary and nonstationary time series, ARIMA models, forecasting processes. *Occasional.*

UCF Courses and Descriptions

STA 5045 COS-COMM 3(3,0)
Statistical Analysis of Communication Data: PR: STA 2023 or C.I. Descriptive statistics; correlation; bivariate, multiple and logistic regression; reliability and validity; effect size, power, confidence intervals; one and two sample tests; ANOVA; categorical data analysis. *Fall, Spring.*

STA 5104 COS-STAT 3(3,0)
Advanced Computer Processing of Statistical Data: PR: STA 4163 and knowledge of a programming language, graduate status or senior standing, or C.I. Use of SAS and other statistical software packages; data manipulation; graphical data presentation; data analysis; creating analytical reports. *Fall.*

STA 5176 COS-STAT 3(3,0)
Introduction to Biostatistics: PR: STA 4163 or STA 4173, graduate status or senior standing, or C.I. Fixed-effects model, random-effects model, repeated measures design, logistic regression, survival analysis, Kaplan-Meier estimates, proportional hazards model. *Occasional.*

STA 5205 COS-STAT 3(3,0)
Experimental Design: PR: STA 4164, STA 5206 or ESI 5219, and graduate status or senior standing, or C.I. Construction and analysis of designs for experimental investigations. Blocking, randomization, replication; incomplete block designs; factorial and fractional designs; design resolution. *Spring.*

STA 5206 COS-STAT 3(3,0)
Statistical Analysis: PR: STA 2023; not open to students who have completed STA 4164. Graduate status or senior standing or C.I. Data analysis; statistical models; estimation; tests or hypotheses; analysis of variance, covariance, and multiple comparisons; regression and nonparametric methods. *Fall.*

STA 5505 COS-STAT 3(3,0)
Categorical Data Methods: PR: STA 4163 or STA 5206, and graduate status or senior standing or C.I. Considers discrete probability distributions, contingency tables, measures of association, and advanced methods, including loglinear modeling, logistic regression, McNemar's Test, Mantel-Haenszel test. *Occasional.*

STA 5703 COS-STAT 3(3,0)
Data Mining Methodology I: PR: STA 5104 and STA 5206, graduate status or senior standing, or C.I. Supervised data mining tools including boosting trees, SV machine, regression, and neural network will be covered. The Enterprise Miner (R or Python) will be used. *Fall.*

STA 5825 COS-STAT 3(3,0)
Stochastic Processes and Applied Probability Theory: PR: STA 4321, and graduate status or senior standing or C.I. Conditional probability and conditional expectations, sequences of random variables, branching processes, random walks, Markov chains, recurrent events, renewal theory, queueing theory, and simple stochastic processes. *Spring.*

SYA 3110 COS-SOC 3(3,0)
Social Theory: PR: SYG 2000 or C.I. Examines major theoretical perspectives in sociology, from foundational theories that contributed to the development of the discipline to today. *Fall, Spring.*

SYA 3352 COS-SOC 3(3,0)
Spatial Sociology I: Intro to GIS: PR: SYG 2000 or SYG 2010. The basics of GIS as it applies to issues in society including, but not limited to those related to criminology, medical, urban, and environmental sociology. *Fall.*

SYA 3400C COS-SOC 4(3,1)
Applied Social Statistics: PR: Junior standing and grade of "C" (2.0) or better in SYG 2000. Sociology or Social Sciences majors only, or C.I.; CR: SYA 4300C required. Application of statistical techniques to sociological data as conducted in the research and writing of social scientists. Focus is on the analysis and interpretation of data used by sociologists. *Fall.*

SYA 4300C COS-SOC 4(3,2)
Research Methods: PR: Junior standing and grade of "C" (2.0) or better in SYG 2000. Sociology or Social Sciences majors only, or C.I. Sociological data collections, sampling techniques, proposal development. critical evaluation of social research, and relationship between theory and social research. *Fall.*

SYA 4310C COS-SOC 4(3,1)
Qualitative Research Analysis in Sociology: PR: SYA 4300C. Advanced research design and analysis focusing on qualitative research methodologies in sociology. Emphasizes data collection, management, analysis, interpretation, integration, presentation, and report writing. *Occasional.*

SYA 4450 COS-SOC 4(3,2)
Data Analysis: Capstone: PR: Junior Standing and grade of "C" (2.0) or better in SYA 4300C and SYA 3400C. Sociology or Social Sciences majors only, or C.I. Advanced social research design and analytical skills. Emphasis on social data management, various modes of social data analysis, interpretation, integration, presentation, and report writing. *Spring.*

SYA 4650C COS-SOC 3(2,2)
Community Action and Involvement: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Utilization of sociological principles in the treatment of practical human problems and organization. *Occasional.*

SYA 4900 COS-SOC 4(3,1)
Applied Sociology: PR: SYA 4300C. How sociology is used outside academia, how to apply research methods in an applied research setting, and complete an applied research project. *Odd Spring.*

SYA 5625 COS-SOC 3(3,0)
ProSeminar: PR: Graduate standing or C.I. Survey of conceptual issues, methodological concerns, and findings in substantive sociological areas that currently dominate scholarly inquiry, including such topics as crime, deviance, community, alcoholism, education. *Fall.*

SYD 3410 COS-SOC 3(3,0)
Urban Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Historical roots of urbanization. Analysis and impact of community change on social organizations in modern industrial societies. *Occasional.*

SYD 3700 COS-SOC 3(3,0)
Race and Ethnicity: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Theoretical analysis of the emergence, maintenance, and disruption of patterns of racial and ethnic stratification. *Fall, Spring.*

SYD 3800 COS-SOC 3(3,0)
Sex and Gender in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Examination of sex and gender in society, as reflected in social norms, attitudes and beliefs, public and private practices, and social institutions. *Fall, Spring.*

SYD 4020 COS-SOC 3(3,0)
Birth, Death, and Population Trends: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Concerned with the study of human population, its distribution, composition, and change. *Occasional.*

SYD 4510 COS-SOC 3(3,0)
Environment and Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Applies the sociological perspective and sociological methods of analysis to the relationships between human behavior and the environment. *Odd Spring.*

SYD 4514 COS-SOC 3(3,0)
Environmental Movement: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Origins, evolution, current status and societal impacts of the environmental movement via sociological theory, concepts and research on social movements. *Occasional.*

SYD 4810 COS-SOC 3(3,0)
Women in Contemporary Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Examination and evaluation of the status of women in the context of the major social institutions (e.g., family, education, religion, economy and polity). *Fall, Spring.*

SYD 4813 COS-SOC 3(3,0)
Women, Law and Social Change: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The process of social movements and how they impact legalized social norms for women in public and private life. *Occasional.*

SYD 4820 COS-SOC 3(3,0)
Men, Masculinities and Society: PR: SYG 2000, SYG 2010 or Junior Standing. Explores the role that masculinities play in social life from a sociological perspective. *Occasional.*

SYD 5517 COS-SOC 3(3,0)
Environment and Society: PR: Graduate standing or C.I. The application of sociological theory and methods to the relationships between communities, societies, and the environment. *Occasional.*

SYD 5795 COS-SOC 3(3,0)
Class, Race, and Gender in American Society: PR: Graduate standing or C.I. Using theoretical and empirical studies, this course will provide a sociological examination of the intersections of race, class, and gender in American society. *Occasional.*

SYG 2000 COS-SOC 3(3,0)
Introduction to Sociology: Scientific study of sociological concepts, theories, processes, and methods used in understanding contemporary human behavior in group interaction. *Fall, Spring.*

SYG 2000H COS-SOC 3(3,0)
Honors Introduction to Sociology: PR: Permission of Honors. Extensive honors work in the field of Sociology. Expectations, requirements, and standards are greater than for standard General Sociology. *Fall, Spring.*

SYG 2010 COS-SOC 3(3,0)
Social Problems: Analysis of major social problems such as mental disorders, sexual deviance, racial discrimination, poverty, community disorganization, and violence. *Fall, Spring.*

SYG 3938 COS-SOC 3(3,0)
Careers in Sociology: PR: SYG 2000 or SYG 2010. Explore careers that sociology majors are prepared for upon graduation and tips for improving chances of obtaining a desired career. *Fall.*

SYG 4244 COS-SOC 3(3,0)
Food and Society: PR: SYG 2000, or SYG 2010, or Junior standing. Through the exploration of food in society, students will discover the significance of food in people's lives and discover ways food expresses relationships among people. *Occasional.*

SYO 3000 COS-SOC 3(3,0)
Contemporary Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Exploration of contemporary sociology. Conceptual analysis and methodological techniques, presentation and utilization of sociological literature on major social institutions. *Occasional.*

SYO 3360 COS-SOC 3(3,0)
Social Organization and Human Relations: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Analysis of business, government, and industrial organizations. Topics include organizational theory, social systems, social structure, effects of technology, motivation, leadership, decision-making, and human relations. *Occasional.*

SYO 3408 COS-SOC 3(3,0)
Animals and Health: PR: One of SYG 2000, ANT 2000, or PSY 2012, or Junior standing. Explores the ways in which non-human animals both enhance and diminish humans' health. *Occasional.*

SYO 3410 COS-SOC 3(3,0)
Patterns of Mental Health in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. A sociological examination of mental illness as a social problem; legal aspects of mental illness, and the mental health professions. *Occasional.*

SYO 3410H COS-SOC 3(3,0)
Honors Patterns of Mental Health in Society: PR: Consent of Honors or C.I. A sociological examination of mental illness as a social problem; legal aspects of mental illness, and the mental health professions. With Honors content. *Occasional.*

SYO 3530 COS-SOC 3(3,0)
Social Power and Inequality: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Study of class, status and power, cultural variations in stratification systems; patterns of mobility and change. *Occasional.*

SYO 4100 COS-SOC 3(3,0)
Family Trends: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Intimate relationships, practices, trends and issues affecting today's marriages and families. *Fall, Spring.*

SYO 4132 COS-SOC 3(3,0)
Global Family Trends: PR: Sophomore standing or C.I. The impact of globalization on families by using travel outside of the U.S. as an instructional vehicle. Graded S/U. *Occasional.*

SYO 4133 COS-SOC 3(3,0)
Family and Aging in Society: PR: SYG 2000, SYG 2010 or Junior Standing. A sociological perspective on human aging as it relates to the institution of family. *Occasional.*

SYO 4200 COS-SOC 3(3,0)
Religion in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The relationship between the religious institution and social stratification, family, education, as well as issues pertaining to gender, race, ethnicity, and age. *Occasional.*

SYO 4250 COS-SOC 3(3,0)
Education and Social Achievement: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. This course examines the sociological dimensions of the educational institutions, including the impact of the social structure on learning and the role of education in social change. *Occasional.*

SYO 4300 COS-SOC 3(3,0)
Political Sociology: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Sociological analysis of political and parapolitical groups; socioeconomic variable of voting behavior, power elites; societies and systems of government. *Occasional.*

SYO 4323 COS-SOC 3(3,0)
Community and Diversity: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The formation of social systems in response to social problems and the implementation of public policy. Emphasis on diverse perspectives and ethical positions and their effect on the form and effectiveness of social systems. *Occasional.*

SYO 4400 COS-SOC 3(3,0)
Medical Sociology: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Analysis of patient beliefs and behavior, health practitioners, the social organization of hospitals and health services, contemporary problems in the delivery of health care. *Occasional.*

SYO 4400H COS-SOC 3(3,0)
Honors Medical Sociology: PR: Consent of Honors or C.I. Analysis of patient behavior, health practitioners, the social organization of health services, and delivery of health care. With Honors content. *Occasional.*

SYO 4401 COS-SOC 3(3,0)
Social Determinants of Health: PR: SYG 2000, ANT 2000 or PSY 2012 or C.I. Examination of the ways social characteristics structure or shape health patterns in the U.S. population. *Occasional.*

SYO 4402 COS-SOC 3(3,0)
Sociology of Health and Illness Behavior: PR: One of SYG 2000, ANT 2000, or PSY 2012, or Junior standing. Social construction of health and illness, and social factors that shape health and illness behavior (e.g., subjective experience of illness, patient-doctor interaction, and coping with disability). *Occasional.*

SYO 4424 COS-SOC 3(3,0)
Men, Masculinities, and Health: PR: SYG 2000, ANT 2000, PSY 2012 or Junior Standing. Explores how masculine gendered identities at various stages during the lifecourse intersect with health, illness, and disease. *Odd Fall.*

SYP 3060 COS-SOC 3(3,0)
Sociology of Sex and Reproduction: PR: One of SYG 2000, ANT 2000 or PSY 2012, or Junior Standing. Sociological theories and research examining sexuality and reproduction in contemporary U.S. society. *Occasional.*

SYP 3300 COS-SOC 3(3,0)
Fads, Crowds, and Social Action: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Analysis of relatively unstructured social situations, such as mobs, crowds, etc. as well as more structured forms of collective behavior such as social movements. *Occasional.*

SYP 3323 COS-SOC 3(3,0)
Video Games in Society: PR: SYG 2000, SYG 2010 or Junior Standing. Sociological perspectives on video games as interactive digital entertainment, including theoretical approaches with respect to gender, race, violence, and capitalism as they relate to gaming. *Occasional.*

SYP 3400 COS-SOC 3(3,0)
Social Change: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Context and essential sources of social development and change. *Occasional.*

SYP 3510 COS-SOC 3(3,0)
Sociology of Deviant Behavior: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Sociological examination of the types of, and societal reactions to, deviant behavior with special emphasis on stigmatization. *Spring.*

SYP 3511 COS-SOC 3(3,0)
Sociology of Murder: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. An analytical study of murder in the U.S.; topics include different types of homicides, offenders, victims, and circumstances. *Fall.*

SYP 3520 COS-SOC 3(3,0)
Criminology: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Chief causes of anti-social behavior and current methods of prevention and reform. Effects of heredity and environment, prevalence of delinquency and crime, penal institutions. *Fall, Spring.*

SYP 3530 COS-SOC 3(3,0)
Juvenile Delinquency: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Types of delinquency behavior found among juveniles; possible causes and ways society attempts to treat the various forms of delinquency. *Occasional.*

SYP 3540 COS-SOC 3(3,0)
Sociology of Law: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The relationship between law and society, including the functions of law and its organization, social and economic consequences, jury selection, and modern trends. *Occasional.*

SYP 3551 COS-SOC 3(3,0)
Patterns of Alcoholism in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Introduction to the nature of alcoholism and review of its impact on society. *Occasional.*

SYP 3562 COS-SOC 3(3,0)
Patterns of Domestic Violence in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Sociological perspectives on all forms of domestic violence, including theoretical explanations, prevalence, risk factors, dynamics of prevention, and intervention. *Occasional.*

SYP 3602 COS-SOC 3(3,0)
Patterns of Popular Music in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The role of popular music in social change and in reflecting American culture. Consideration is given to the nature of the popular music business. *Occasional.*

SYP 3630 COS-SOC 3(3,0)
Popular Culture In Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Examines the relationship between contemporary popular culture and social institutions, collective identities, social change, gender, ethnicity and age. *Occasional.*

SYP 3650 COS-SOC 3(3,0)
Sports and Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Utilization of sociological concepts and theories to investigate sport as a social institution. Includes subjects of racism, sexism, drug abuse, violence, and current issues of sport. *Occasional.*

SYP 4000 COS-SOC 3(3,0)
Sociological Social Psychology: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Study of social perception, attitude formation and change, motivation, and decision-making in small groups as affected by social interaction and social processes. *Occasional.*

SYP 4004 COS-SOC 3(3,0)
Constructing Social Issues: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Sociological examination of social problems as an emergent process that involves collective definitions and legitimating organizations. Topics include deviance, race, gender and popular culture. *Occasional.*

SYP 4304 COS-SOC 3(3,0)
Social Movements and Revolutions: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Comparative sociology of revolutions and the sociological research on social movements. *Occasional.*

SYP 4420 COS-SOC 3(3,0)
The Consumer Society: PR: SYG 2000, SYG 2010, or C.I. Explores primary trends and processes related to life in a consumer society. *Occasional.*

SYP 4454 COS-SOC 3(3,0)
Global Inequality and Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Theoretical and empirical examination of the sociological process of global stratification and the countervailing force of an emergent anti-globalization social movement. *Occasional.*

SYP 4514 COS-SOC 3(3,0)
Patterns of Violence in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Social roots, culture, circumstances, prevention, and control of violence. *Occasional.*

SYP 4521 COS-SOC 3(3,0)
Crime Victims in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Issues related to victimology such as victimization risks and societal treatment of victims. *Occasional.*

SYP 4536 COS-SOC 3(3,0)
Gangs and Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Types of gangs, gang members, activities, group processes, and societal responses to gangs. *Occasional.*

SYP 4550 COS-SOC 3(3,0)
Patterns of Drug Abuse in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Analysis of the socio-cultural elements of the drug culture. *Occasional.*

SYP 4631 COS-SOC 3(3,0)
Social Issues in Film: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. The use of film to examine important social issues related to crime, substance use, health, war, social inequality, and the environment. *Occasional.*

SYP 4730 COS-SOC 3(3,0)
Patterns of Aging in Society: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. Sociological aspects of aging in America. *Fall, Spring.*

SYP 4732 COS-SOC 3(3,0)
Minority Aging: PR: One of SYG 2000, ANT 2000, PSY 2012, or Junior standing. A sociological examination of older populations within minorities: ethnic minorities, women, and gay men and lesbians. *Occasional.*

UCF Courses and Descriptions

SYP 5005 COS-SOC 3(3,0)
Sociological Social Psychology: PR: Graduate standing or C.I. An exploration of sociological social psychological theories and their application in understanding the effects of society and groups on the individual. *Occasional.*

SYP 5566 COS-SOC 3(3,0)
Seminar on Domestic Violence: Theory, Research and Social Policy: PR: Graduate status or senior standing or C.I. A sociological examination and evaluation of theories, empirical research and social policy related to the study of domestic violence. *Occasional.*

SYP 5615 COS-SOC 3(3,0)
Sociology of Culture: PR: Graduate standing or C.I. Major theoretical approaches and empirical studies in the sociology of culture and analysis of cultural processes. *Occasional.*

TAX 4001 BA-ACCT 3(3,0)
Taxation of Business Entities and Transactions: PR: Junior standing, ACG 3131 with a grade of "C" (2.0) or better. Federal income tax laws affecting the taxation of business entities and transactions. *Fall, Spring.*

TAX 5015 BA-ACCT 3(3,0)
Advanced Tax Topics: PR: Graduate standing, TAX 4001 with a "C" (2.0) or better. Advanced tax issues affecting business entities and their owners, with a primary focus on corporations and partnerships. *Occasional.*

THE 2000 CAH-THEA 3(3,0)
Theatre Survey: Overview of the art and craft of the theatre. Restricted to non majors. *Fall, Spring.*

THE 2000H CAH-THEA 3(3,0)
Honors Theatre Survey: PR: Permission of Honors. Not restricted to theatre majors. Honors-level overview of the art and craft of the theatre. *Fall, Spring.*

THE 2020 CAH-THEA 3(3,0)
Survey of Theatre for Majors: PR: Theatre major or minor. Overview of the art and craft of theatre. *Fall.*

THE 2050 CAH-THEA 3(3,0)
Theatre Studies in Creative Drama: Techniques and theories for facilitating creative drama with youth, as both an art form and teaching tool. *Occasional.*

THE 2081C CAH-THEA 3(2,1)
Introduction to UCF Theatre: PR: Theatre major. Specific UCF Theatre Department production protocols and operations. *Fall.*

THE 2090L CAH-THEA VAR(0,VAR)
Theatre Participation: PR: Department Consent. Participation in UCF Theatre productions. May be used in the degree program a maximum of 8 times. *Fall, Spring.*

THE 2305 CAH-THEA 3(3,0)
Script Analysis for Theatre: PR: Theatre major. Exploration of dramatic form with focus on playscripts for productions. *Fall, Spring.*

THE 2925L CAH-THEA 1(0,VAR)
Theatre Participation - Management I: PR: Theatre Major, Theatre Minor or Dance Minor. Participation in UCF Theatre productions. Graded S/U. May be used in the degree program a maximum of 8 times. *Fall, Spring.*

THE 3006 CAH-THEA 3(3,0)
Greece to Grease: Development of Theatre: PR: THE 2000 or any 2000-level History course. Not for Theatre Majors. Development of Western Theatre from Ancient Greece to today. *Occasional.*

THE 3006H CAH-THEA 3(3,0)
Honors From Greece to Grease: PR: Not open to Theatre Majors. Consent of Honors. Development of Western Theatre from Ancient Greece to today. With Honors Content. *Occasional.*

THE 3082 CAH-THEA 3(3,0)
Theatre Careers: PR: B.A. Theatre major or Theatre minor, "C" (2.0) or better in THE 2020 or THE 2000, and Sophomore standing. Techniques to secure employment in theatre and related fields. *Occasional.*

THE 3171 CAH-THEA 3(3,0)
That's Entertainment!: Theatre Experience in Theme Parks, Vegas, and Broadway: PR: THE 2000 or ENC 1102 or FIL 1000. The art and craft of theatrical live entertainment. *Occasional.*

THE 3240 CAH-THEA 3(3,0)
Musical Theatre Survey: PR: ENC 1102. Development of Musical Theatre through history. *Occasional.*

THE 3250 CAH-THEA 3(3,0)
Sex, Drugs, & the Rock and Roll Musical: PR: ENC 1102. Overview of the Rock & Roll musical theatre genre including culture and development. *Occasional.*

THE 3254 CAH-THEA 3(3,0)
Queer Theatre: PR: ENC 1102. Examination of the roots, progression and current trends in Queer Theatre through the eyes of its diverse communities: activists, writers and performers. *Occasional.*

THE 3272 CAH-THEA 3(3,0)
What a Drag: The Art of Transgender in Entertainment: PR: ENC 1102. The use of transgender performance in entertainment. *Occasional.*

THE 3311 CAH-THEA 3(3,0)
Theatre History and Dramatic Literature I: PR: Theatre major, "C" (2.0) or better in THE 2305. Theatre history and literature from the Greeks to the Renaissance. *Fall, Spring.*

THE 3312 CAH-THEA 3(3,0)
Theatre History and Dramatic Literature II: PR: Theatre major, "C" (2.0) or better in THE 3311 and THE 2305. Theatre history and literature from French neo-classicism to modern realism. *Fall, Spring.*

THE 3313 CAH-THEA 3(3,0)
Theatre History and Dramatic Literature III: PR: Theatre major, "C" (2.0) or better in THE 3312. Theatre history and literature from modern realism to present. *Fall, Spring.*

THE 3333 CAH-THEA 3(3,0)
Shakespeare Skills: PR: Grade of "C" (2.0) or better in TPP 2185 or TPP 2110C. Course not allowed for BFA Theatre Acting Majors. Study of Shakespeare's heightened language, scansion, and text from a theatrical point of view. *Occasional.*

THE 3383 CAH-THEA 3(3,0)
Taboo Theatre: Sex & Violence on Stage: PR: ENC 1102. Dramatic literature with taboo topics and their impact on the storytelling and entertainments of today. *Occasional.*

THE 4093L CAH-THEA 1(0,VAR)
Theatre Participation-Management II: PR: Theatre major or minor, "C" (2.0) or better in THE 2925L. Participation in UCF Theatre productions. May be used in the degree program a maximum of 8 times. *Fall, Spring.*

THE 4212 CAH-THEA 3(3,0)
Global Theatre: PR: Grade of C (2.0) or better required in ENC 1101 or ANT 2000. Theatrical arts and traditions of various countries with an emphasis on non-western cultures. *Occasional.*

THE 4230 CAH-THEA 3(3,0)
Cultural Diversity in Theater: PR: "C" (2.0) or better in ENC 1101 or ANT 2000. Commonality of human experience among various cultural groups through the study of dramatic literature. *Occasional.*

THE 4244 CAH-THEA 3(3,0)
Musical Theatre History I: PR: B.F.A. Musical Theatre major, "C" (2.0) or better required in THE 2081C. Origins and evolution of Musical Theatre from the Ancient Greeks through the 1950s. *Fall.*

THE 4245 CAH-THEA 3(3,0)
Musical Theatre History II: PR: BFA Musical Theatre major, C (2.0) or better required in THE 4244. Origins and evolution of Musical Theatre from the 1950s through the present. *Spring.*

THE 4284 CAH-THEA 3(3,0)
Period Costume, Architecture, and Decor I: PR: "C" (2.0) or better in ENC 1102. Costumes, furniture and decor from antiquity to the High Renaissance. *Fall.*

THE 4285 CAH-THEA 3(3,0)
Period Costume, Architecture, and Decor II: PR: "C" (2.0) or better in THE 4284. Costumes, furniture and decor from the English Renaissance to the present. *Occasional.*

THE 4423 CAH-THEA 3(3,0)
Women in Theatre: PR: Grade of C (2.0) or better in ENC 1101. An overview of women's contributions to theatre. *Occasional.*

THE 4543 CAH-THEA 3(3,0)
Theatre for Social Change: PR: Grade of C (2.0) or better in ENC 1101. Theatre activist's impact on theatrical art forms. *Occasional.*

THE 4543H CAH-THEA 3(3,0)
Honors Theatre for Social Change: PR: Consent of Honors. Theatre activist's impact on theatrical art forms. With Honors content. *Occasional.*

THE 4954 CAH-THEA 0(0,0)
Theatre Exit Critique: PR: Theatre Major; Senior Standing. Completion of departmental exit critique. Graded S/U. *Fall, Spring.*

THE 5205 CAH-THEA 3(3,0)
American Theatre: PR: THE 5910, and MA or MFA Theatre Graduate. Examination of performance and historical perspectives of American drama. *Spring.*

THE 5215 CAH-THEA 3(3,0)
Global Theatre: PR: Admission into the MFA/MA Theatre programs or C.I. Theatrical arts and traditions of various countries with an emphasis on non-western countries. *Occasional.*

THE 5237 CAH-THEA 3(3,0)
Cultural Diversity in Theatre: PR: Admission into the MFA/MA Theatre programs or C.I. Commonality of human experience among various groups through the study of dramatic literature. *Occasional.*

THE 5248 CAH-THEA 3(3,0)
Musical Theatre in History: PR: Admission to MFA Musical Theatre Program. A chronological study of musical theatre from early Viennese operetta to the musicals of the modern age. Course will emphasize the work of composers, librettists, and lyricists as well as representative masterworks of a variety of genre. Emphasis will be placed upon historical trends and theatrical viability. *Fall.*

THE 5288 CAH-THEA 3(3,0)
Period Costumes, Architecture and Décor I: PR: Admission into Theatre MFA Design track. Costumes, architecture and decor from antiquity to the renaissance. *Fall.*

THE 5289 CAH-THEA 3(3,0)
Period Costumes, Architecture and Decor II: PR: THE 5288. Costumes, architecture and decor from the Renaissance to present. *Spring.*

THE 5307 CAH-THEA 3(3,0)
Contemporary Theatre Practice: PR: THE 3311, THE 3312, THE 3313, Restricted to Theatre majors or departmental consent. Contemporary trends in plays and theatre production in the late 20th century. *Spring.*

THE 5385 CAH-THEA 3(3,0)
Dramatic Literature for Children: PR: Admission to MFA graduate program or C.I. An in-depth study of the growth and development of dramatic literature for children. *Even Fall.*

THE 5425 CAH-THEA 3(3,0)
Women in Theatre: PR: Admission into the MFA/MA Theatre programs or C.I. An overview of women's contributions to theatre. *Occasional.*

THE 5545 CAH-THEA 3(3,0)
Theatre for Social Change: PR: Admission into the MFA/MA Theatre programs or C.I. Theatre activists' impact on theatrical art forms. *Occasional.*

UCF Courses and Descriptions

THE 5910 CAH-THEA 3(3,0)
Research Methods in Theatre: PR: MFA and MA in Theatre. Practice knowledge, skills and techniques needed by students to conduct research to include organization, styles, footnotes, and bibliographic forms. *Fall*.

THE 5945L CAH-THEA 1(0,20)
Theatre Practicum I: PR: Graduate status or C.I. A laboratory course designed to develop students' practical working knowledge in Theatre. *Occasional*.

THE 5946L CAH-THEA 1(0,20)
Theatre Practicum II: PR: Admission into the graduate program, Theatre Practicum I. A laboratory course designed to develop students' practical working knowledge in theatre. *Occasional*.

TPA 2000C CAH-THEA 3(2,2)
Theatre Design Basics: PR: BFA Design and Technology or Stage Management major. Basic design skills for scenic, lighting, sound and costume designers. *Fall*.

TPA 2010C CAH-THEA 3(2,2)
Scenography: PR: "C" (2.0) or better in TPA 2000C and BFA Design and Technology or Stage Management major. Introduction to design for the stage, including scenery, lighting, costumes and sound. *Occasional*.

TPA 2071C CAH-THEA 3(2,2)
Theatre Rendering: PR: "C" (2.0) or better in TPA 2000C. Specific rendering techniques used to create visual images for scenic, lighting, and costume designers. *Spring*.

TPA 2200 CAH-THEA 2(2,0)
Introduction to Technical Theatre: Development, theory and practice of all areas of technical theatre production. *Fall, Spring*.

TPA 2200L CAH-THEA 1(0,6)
Intro to Technical Theatre Lab: PR: Theatre Major or Department Consent. CR: TPA 2200. Practical projects in scenic construction. *Fall, Spring*. M&S fee \$45.00

TPA 2210 CAH-THEA 3(3,0)
Stagecraft I: PR: BFA Design/Tech or Stage Management, CR: TPA 2210L. Development, theory, and practice of technical theatre production. *Fall*.

TPA 2210L CAH-THEA 1(0,6)
Stagecraft I Lab: PR: or CR: "C" (2.0) or better in TPA 2210. Practical projects in scenic construction. *Occasional*. M&S fee \$45.00

TPA 2211 CAH-THEA 3(3,0)
Stagecraft II: PR: "C" (2.0) or better in TPA 2210 and TPA 2210L; CR: TPA 2211L. Advanced projects in scenic construction. *Spring*.

TPA 2211L CAH-THEA 1(0,6)
Stagecraft II Lab: PR: "C" (2.0) or better in TPA 2210 and TPA 2210L; CR: TPA 2211. Advanced projects in scenic construction. *Occasional*. M&S fee \$45.00

TPA 2220C CAH-THEA 3(2,2)
Stage Electronics: PR: BFA Design and Technology or Stage Management major. Introduction to lighting and sound electronics for the stage. *Fall*. M&S fee \$44.00

TPA 2230C CAH-THEA 3(2,2)
Costume Construction: PR: Theatre Major or Department Consent. Basic knowledge and techniques for construction of stage costumes. *Fall, Spring*. M&S fee \$22.00

TPA 2248C CAH-THEA 2(2,2)
Makeup Techniques: PR: Theatre B.F.A. major or departmental consent. Theory and practice of stage makeup. *Fall, Spring*. M&S fee \$17.00

TPA 2290L CAH-THEA 1(0,VAR)
Theatre Participation-Production I: PR: Theatre major or minor. Participation in UCF Theatre productions. May be used in the degree program a maximum of 8 times. *Fall, Spring*. M&S fee \$47.00

TPA 2600 CAH-THEA 3(3,0)
Stage Management: Introduction: PR: Theatre Major or Minor. Functions and responsibilities of professional stage managers. *Occasional*.

TPA 3045C CAH-THEA 3(2,2)
Costume Design for Theatre I: PR: BFA Stage Management or Design & Technology major and "C" (2.0) or better in THE 2305 and TPA 2000C. Projects in the fundamentals of costume design for the stage. *Fall*.

TPA 3060C CAH-THEA 3(2,2)
Scenic Design for Theatre I: PR: BFA Stage Management or Design and Technology major and "C" (2.0) or better in THE 2305, TPA 2000C, TPA 2071C, and TPA 4250C. Projects in the fundamentals of scenic design for the stage. *Fall*. M&S fee \$37.00

TPA 3077C CAH-THEA 3(2,2)
Scene Painting: PR: "C" (2.0) or better in TPA 2000C and TPA 2071C. Projects in scene painting techniques. *Fall*. M&S fee \$70.00

TPA 3172 CAH-THEA 3(3,0)
Flash, Bash, and Splash: Concerts, Wrestling, & Circus: PR: THE 2000, THE 2020, MUL 2010, ENC 1102, or ARH 2051. Components of large-scale entertainment extravaganzas including but not limited to designers, technical developments, documentation, concepts, and venues. *Occasional*.

TPA 3195L CAH-THEA 3(0,VAR)
Summer Theatre Studio/Tech/Design I: PR: Departmental consent by audition or interview. Study, analysis and execution of technical/design aspects for playscripts produced on UCF mainstage. May be repeated for credit. *Occasional*. M&S fee \$20.00

TPA 3197L CAH-THEA 3(0,VAR)
Summer Theatre Studio/Tech/Design II: PR: Departmental consent by audition or interview. Continuation of TPA 3195L. May be repeated for credit. *Occasional*. M&S fee \$20.00

TPA 3223C CAH-THEA 3(2,2)
Lighting Design for Theatre I: PR: BFA Stage Management or Design and Technology major and "C" (2.0) or better in THE 2305, TPA 2220C, TPA 2000C, and TPA 4250C. Projects in the fundamentals of lighting design for the stage. *Spring*. M&S fee \$61.00

TPA 3249C CAH-THEA 2(2,2)
Advanced Makeup Techniques: PR: "C" (2.0) or better in TPA 2248C. Lecture/laboratory study of basic techniques needed for the creation of stage and film prosthetics and masks. *Occasional*. M&S fee \$70.00

TPA 3265C CAH-THEA 3(2,2)
Sound Design for Theatre I: PR: BFA Stage Management or Design Technology major and "C" (2.0) or better in THE 2305, TPA 2220C, TPA 2000C, and TPA 4250C. Projects in the fundamentals of sound design for the stage. *Spring*.

TPA 3383C CAH-THEA VAR(VAR,0)
Topics in Technical Theatre: PR: Theatre Major and "C" (2.0) or better in TPA 2230C or TPA 2220C or Department Consent. Techniques used in the production of scenery or costumes for the stage. Variable Topics. May be used in the degree program a maximum of 8 times. *Occasional*. M&S fee \$35.00

TPA 3601 CAH-THEA 3(3,0)
Stage Management: Techniques: PR: "C" (2.0) or better in TPA 2600. Paperwork, structure, and tools used by Stage Manager. *Fall*.

TPA 4066C CAH-THEA 3(2,2)
Advanced Scenography: PR: "C" (2.0) or better in TPA 3060C, TPA 3045C, TPA 3265C, or TPA 3223C. Project based work in student's area of concentration. May be used in the degree program a maximum of 4 times only when course content is different. *Occasional*.

TPA 4250C CAH-THEA 2(2,2)
CADD for Theatre: PR: B.F.A Design and Technology or Stage Management major and "C" (2.0) or better in THE 2020. Computer-aided drafting and design and its application for Theatre. *Occasional*. M&S fee \$23.00

TPA 4251C CAH-THEA 2(2,2)
Advanced CADD for Theatre: PR: "C" (2.0) or better in TPA 4250C. Advanced computer-aided drafting and design and its application for Theatre. *Spring*. M&S fee \$43.00

TPA 4298L CAH-THEA 1(0,VAR)
Theatre Participation-Production II: PR: "C" (2.0) or better in TPA 2290L. Participation in UCF Theatre Productions. May be used in the degree program a maximum of 8 times. *Fall, Spring*. M&S fee \$47.00

TPA 4384C CAH-THEA 3(3,4)
Advanced Topics in Technical Theatre: PR: C (2.0) in TPA 2210 and TPA 2211. Variable topics which may include Technical Direction or other advanced topics. May be used in the degree program a maximum of 4 times. *Occasional*. M&S fee \$35.00

TPA 4400 CAH-THEA 3(3,0)
Theatre Management: PR: "C" (2.0) or better in THE 2020, Theatre Major or Minor and Junior standing. Study of the development, organization, management, funding, and promotion of theatres. *Fall*.

TPA 4401C CAH-THEA 3(2,2)
Theatre Careers in Production: PR: B.F.A. Design/Tech or Stage Management; Junior standing. Techniques to secure employment in technical theatre, design, and stage management. *Spring*.

TPA 4602 CAH-THEA 3(3,0)
Stage Management: Applications: PR: B.F.A. Stage Management major, C (2.0) or better required in TPA 3601. Application of stage management techniques. *Fall*.

TPA 4604 CAH-THEA 3(3,1)
Stage Management: Professional Practice: PR: B.F.A. Stage Management major, "C" (2.0) or better required in TPA 4602. Union work rules and application of professional contracts. *Fall*.

TPA 5029C CAH-THEA 3(2,2)
Lighting Design Studio: PR: TPA 5042C and TPA 5062C. Advanced work in the process of designing light for the stage with an emphasis on the use of light as artistic expression. *Occasional*.

TPA 5042C CAH-THEA 3(2,2)
Costume Design Studio: PR: Admission to the graduate program in Theatre or C.I. Project oriented course in the advance study of Costume Design. *Occasional*.

TPA 5062C CAH-THEA 3(2,2)
Scene Design Studio: PR: Graduate status or C.I. Advanced work in the conceptualization and communication of scenic designs for the theatre. *Spring*.

TPA 5081C CAH-THEA 3(3,3)
Design Concepts for Youth Theatre: PR: Admission to the graduate program in Theatre or C.I. A study of design elements (lighting, costume, set) as they apply to youth theatre. *Odd Spring*.

TPA 5085C CAH-THEA 2(2,2)
Design Seminar for Theatre: PR: Admission into Theatre MFA Design track. Scenic, costume, lighting and sound design for theatre. *Occasional*.

TPA 5095C CAH-THEA 1(1,1)
Rendering for Theatre I: PR: Admission to the graduate program in Theatre or C.I. Traditional visual communication skills necessary for scenic, costume, and lighting design. *Fall*.

TPA 5175C CAH-THEA 1(1,1)
Rendering for Theatre II: PR: TPA 5095C. Software and technology available for visual communication and documentation. *Spring*.

TPA 5345C CAH-THEA 2(2,2)
2D Computer Assisted Design for Theatre: PR: Admission into the Theatre MFA Design track. Two-Dimensional computer drafting and editing techniques applicable to theatre design. *Occasional*.

TPA 5346C CAH-THEA 2(2,2)
3D Modeling for Theatre: PR: TPA 5345C. Three-dimensional computer modeling and editing techniques applicable for theatre design. *Occasional*.

UCF Courses and Descriptions

TPA 5405 CAH-THEA 3(3,0) Theatre Management for Non-Majors: PR: THE 2020 or THE 2000, graduate status, or C.I. Study of university, community and professional theatre management with special attention to the principles of management to include management skills/function and organizational systems/performance as they relate to theatre organizations/institutions. <i>Fall</i> .	TPP 3251C CAH-THEA 2(2,1) Musical Theatre Monologue: PR: B.F.A. Musical Theatre major, and "C" (2.0) or better required in TPP 2170C. Practical acting techniques with solo musical theatre repertoire. <i>Fall</i> .	TPP 4143C CAH-THEA 3(2,2) Acting Styles: PR: "C" (2.0) or better in TPP 3103 or TPP 4140C. An advanced and comprehensive view of acting styles. <i>Occasional</i> .
TPA 5885C CAH-THEA 2(2,2) Puppetry: PR: Admission to MFA graduate program or C.I. Puppetry as an art form in design and performance. <i>Odd Spring</i> . M&S fee \$30.00	TPP 3252C CAH-THEA 2(2,1) Musical Theatre Scene Study: PR: B.F.A. Musical Theatre major, and "C" (2.0) or better in TPP 2170C. Practical acting technique for musical theatre scene study <i>Spring</i> .	TPP 4193L CAH-THEA 1(0,VAR) Theatre Participation-Performance II: PR: Theatre major or minor and "C" (2.0) or better in TPP 2190L. Participation in UCF Theatre productions. May be used in the degree program a maximum of 8 times. <i>Fall, Spring</i> . M&S fee \$48.00
TPA 5946C CAH-THEA 1(0,20) Design Practicum I: PR: Admission into the MFA Design program. Practical experience as a member of the production team as a prop master or assistant scenic, costume, lighting, or sound designer. <i>Occasional</i> .	TPP 3257C CAH-THEA 2(2,2) Musical Theatre Voice Techniques: PR: B.F.A. Acting or B.A. Theatre Studies. Techniques for singing musical theatre repertoire <i>Spring</i> .	TPP 4221 CAH-THEA 3(3,0) Auditioning: PR: "C" (2.0) or better in TPP 2170C. Selecting monologues, auditioning techniques and cold readings. <i>Spring</i> .
TPA 5949C CAH-THEA 1(0,20) Design Practicum II: PR: Admission into the graduate program and TPA 5946C or C.I. Advanced work in the practical application of Properties and/or Design for the Theatre. <i>Occasional</i> .	TPP 3258C CAH-THEA 2(2,2) Musical Theatre Voice Styles: PR: B.F.A. Acting or B.A. Theatre Studies major, and "C" (2.0) or better in TPP 3257C. Singing a variety musical theatre repertoire styles. <i>Fall</i> .	TPP 4223C CAH-THEA 3(2,2) Theatre Careers for Performance: PR: B.F.A. Acting and Musical Theatre major, Junior standing. Techniques needed to secure employment in performance or related fields. <i>Spring</i> .
TPP 2101 CAH-THEA 3(3,0) Fundamentals of Acting: PR: BA Theatre Studies major, BFA Design & Technology major, BFA Stage Management major or Theatre minor. Development of imagination, self-awareness and the ability to execute basic stage tasks. <i>Fall, Spring</i> .	TPP 3264C CAH-THEA 3(3,2) Acting on Camera: PR: BA Theatre major; "C" (2.0) or better in TPP 2110C, and TPP 3103. Preparing the actor for professional work in the TV/Film industry. <i>Occasional</i> .	TPP 4243C CAH-THEA 2(2,2) Circus Arts: PR: Theatre major or minor; "C" (2.0) or better in TPP 2110C or TPP 2185. Circus history and introduction to a wide range of circus skills. <i>Occasional</i> .
TPP 2110C CAH-THEA 3(2,2) Acting I - Introduction: PR: Theatre major or minor. Development of imagination, self-awareness, and the ability to execute basic stage tasks. <i>Fall, Spring</i> .	TPP 3272C CAH-THEA 2(2,2) Estill for Musical Theatre - Artistry: PR: TPP 2742C. Technical, emotional and psychological aspects of voice applied to musical theatre singing. Music and Lyrics as script. <i>Spring</i> .	TPP 4244 CAH-THEA 3(2,2) The Art of Storytelling: PR: Theatre major or minor; "C" (2.0) or better in TPP 2185, or TPP 2110C, and THE 2000 or THE 2020. Application of theatrical storytelling as an art form. <i>Occasional</i> .
TPP 2170C CAH-THEA 3(2,2) Acting II -The Actor Prepares: PR: B.F.A. Acting or Musical Theatre major and "C" (2.0) or better in TPP 2110C. Fundamental techniques to acting, with emphasis on characterization and character development. <i>Fall, Spring</i> .	TPP 3310C CAH-THEA 3(2,2) Directing for Theatre I: PR: Theatre major and "C" (2.0) or better required in THE 3312. Principles and techniques of play direction to include script selection, directorial analysis, casting, composition/picturization, blocking, tempo, and rehearsal planning. <i>Fall, Spring</i> .	TPP 4259C CAH-THEA 2(2,2) MT Applied/Studio Voice III: PR: "C" (2.0) or better in TPP 3744C. Continuation of Musical Theatre voice training. Individualized instruction <i>Fall</i> .
TPP 2185 CAH-THEA 3(3,0) Acting for Non-majors: Introduction to the fundamentals of acting. <i>Fall, Spring</i> .	TPP 3510C CAH-THEA 2(2,1) Movement for the Actor I: PR: BFA Acting Major. Physical exploration of relaxation, release, and strengthening exercises designed to help the actor develop a more expressive body. <i>Fall</i> .	TPP 4265C CAH-THEA 3(3,2) Camera Acting: PR: "C" (2.0) or better in TPP 4140C. Application of previous acting training to the TV/Film medium. <i>Occasional</i> .
TPP 2190L CAH-THEA 1(0,VAR) Theatre Participation-Performance I: PR: Theatre major or minor or department consent. Participation in UCF Theatre productions. May be repeated for credit. <i>Fall, Spring</i> . M&S fee \$48.00	TPP 3513C CAH-THEA 2(2,1) Movement for the Actor II: PR: C (2.0) or better in TPP 3510C. Reinforcement of the techniques of TPP 3510C. <i>Fall</i> .	TPP 4270C CAH-THEA 2(2,2) MT Applied/Studio Voice IV: PR: "C" (2.0) or better in TPP 4259C. Continuation of Musical Theatre voice training. Individualized instruction <i>Spring</i> .
TPP 2700C CAH-THEA 3(2,2) Stage Speech/Voice: PR: BA Theatre major or minor. Practical stage voice as it applies to performance. Credit cannot be applied towards BFA acting and musical theatre majors. <i>Spring</i> .	TPP 3711C CAH-THEA 2(2,1) Voice Production II: PR: "C" (2.0) or better in TPP 2710C. Reinforcing stage voice awareness introduced in TPP 2710C, focusing on a physical approach to acting texts. <i>Spring</i> .	TPP 4271C CAH-THEA 2(2,2) MT Applied/Studio Voice V: PR: "C" (2.0) or better in TPP 4270C. Continuation of Musical Theatre voice training. Individualized instruction. <i>Fall</i> .
TPP 2710C CAH-THEA 2(2,1) Voice Production I: PR: BFA acting major. Lessac, Skinner, phonetics, and the vocal apparatus. <i>Fall</i> .	TPP 3712C CAH-THEA 2(2,1) Voice Production III: PR: "C" (2.0) or better in TPP 3711C. Emphasis on study of Shakespearean and heightened language. <i>Fall</i> .	TPP 4311C CAH-THEA 3(2,2) Advanced Directing for Theatre: PR: "B" (3.0) or better grade in TPP 3310C. Practical experience directing class scenes and projects. <i>Spring</i> .
TPP 2742C CAH-THEA 2(2,2) Estill for Musical Theatre - Craft: PR: Musical Theatre Major. Estill Model of anatomy and physiology of the voice, diction at a distance, and compulsory figures. <i>Fall</i> .	TPP 3743C CAH-THEA 2(2,2) Musical Theatre Applied/Studio Voice I: PR: "C" (2.0) or better in TPP 3272C. Continuation of Musical Theatre voice training with individualized instruction. <i>Fall</i> .	TPP 4512C CAH-THEA 2(2,2) Stage Combat: PR: BFA Acting or Musical Theatre major, grade of "C" (2.0) or better in TPP 3711C, and Senior standing. Stage combat with emphasis on hand-to-hand combat. <i>Occasional</i> .
TPP 3103 CAH-THEA 3(3,0) Intermediate Acting: PR: B.A. Theatre Studies major, or BFA Stage Management major or Theatre minor and "C" (2.0) or better in TPP 2110C or TPP 2185. Practice and execution of scene work, monologue work, and exercises. <i>Fall, Spring</i> .	TPP 3744C CAH-THEA 2(2,2) Musical Theatre Applied/Studio Voice II: PR: "C" (2.0) or better in TPP 3743C. Continuation of Musical Theatre voice training with individualized instruction. <i>Fall</i> .	TPP 4531C CAH-THEA 2(2,1) Period Movement: PR: Grade of C (2.0) or better required in TPP 3173C. Continuation of Movement/Dance work. Emphasis given to period styles. <i>Fall</i> .
TPP 3173C CAH-THEA 3(2,2) Acting III - Building the Character: PR: Grade of C (2.0) or better required in TPP 2170C. Reinforcement of acting techniques begun in Acting II, with emphasis on characterization and character development. <i>Spring</i> .	TPP 3952L CAH-THEA 3(0,VAR) Summer Studio Performance: PR: Audition/Interview or departmental consent. Participation in UCF Theatre productions. May be used in the degree program a maximum of 8 times. <i>Occasional</i> . M&S fee \$20.00	TPP 4730C CAH-THEA 2(2,1) Dialects: PR: Grade of "C" (2.0) or better required in TPP 3712C. Analysis of dialects and regionalisms, reinforcing the study of phonetics, placement, and vocal apparatus. <i>Occasional</i> .
TPP 3197L CAH-THEA 3(0,VAR) Summer Theatre/Performance: PR: Audition/Interview or departmental consent. Production assignments and responsibilities during the rehearsals/performance of play scripts produced on the UCF mainstage. May be used in the degree program a maximum of 8 times. <i>Occasional</i> . M&S fee \$20.00	TPP 4140C CAH-THEA 3(2,2) Acting IV - Creating the Role: PR: "C" (2.0) or better in TPP 3173C. Continued exploration and application of acting techniques through scene study. <i>Fall</i> .	TPP 4746C CAH-THEA 2(2,2) Musical Theatre Auditioning: PR: Theatre major and grade of "C" (2.0) or better in DAA 2201C and TPP 3257C or TPP 2742C. Preparation for professional musical theatre auditions. <i>Occasional</i> .
	TPP 4142C CAH-THEA 3(2,2) Acting Verse: PR: Grade of "C" (2.0) or better required in TPP 3712C and TPP 4140C. Verse drama with particular emphasis placed on scansion and verse in the plays of William Shakespeare. <i>Occasional</i> .	TPP 4923C CAH-THEA 2(2,2) MT Applied/Studio Voice VI: PR: "C" (2.0) or better in TPP 4271C. Continuation of Musical Theatre voice training. Individualized instruction. <i>Spring</i> .

TPP 4940L CAH-THEA 6(0,VAR)
Theatre Internship: PR: Restricted to B.F.A. Theatre majors, and Junior Standing and subject to Departmental approval. Off-campus internship programs in professional theatre. Required of all B.F.A. theatre majors. *Fall/Spring.*

TPP 5125C CAH-THEA 2(2,2)
Improvisation Studio: PR: Acting for Youth Theatre. A study of spontaneous dramatic play and theatre exercises designed to develop self-discipline, creative freedom and resources for the stage and classroom. *Odd Fall.*

TPP 5156C CAH-THEA 3(2,2)
Acting Studio I: PR: Admission to Theatre MFA Acting or Musical Theatre Track. An advanced scene study course with emphasis on scene analysis and character development and application of acting techniques in modern contemporary American plays. *Fall.*

TPP 5157C CAH-THEA 3(2,2)
Acting Studio II: PR: TPP 5156C. Advanced scene study course applying acting methodologies to the works of modern (1850-) European playwrights with emphasis on the works of Ibsen/Chekhov/Shaw. *Spring.*

TPP 5246C CAH-THEA 2(2,2)
Circus Arts: PR: Admission to Theatre graduate program or C.I. Circus skills and history. *Even Spring.*

TPP 5248C CAH-THEA 2(2,2)
Storytelling as a Theatrical Art Form: PR: Admission to Theatre graduate program or C.I. Application of storytelling as an art form. *Spring.*

TPP 5273 CAH-THEA 2(2,0)
Musical Theatre Acting I: PR: TPP 5157C. Integrated study in musical theatre acting, singing and movement applied to musical theatre performance, direction and choreography; emphasizing developing skills in textual and musical interpretation. *Occasional.*

TPP 5278C CAH-THEA 1(1,1)
Musical Theatre Lab: PR: TPP 5157C. Practical course in developing musical theatre skills for the actor. *Spring.*

TPP 5289C CAH-THEA 2(2,3)
Acting Methodologies: PR: Admission to the graduate program in Theatre or C.I. Approaches to acting. *Even Fall.*

TPP 5386C CAH-THEA 3(3,3)
Directing for Young Audiences: PR: THE 5910 and THE 5385. Study of the principles, procedures, and practices of stage direction as it applies to theatre for young audiences. *Odd Spring.*

TPP 5515 CAH-THEA 2(2,0)
Movement Studio I: PR: Admission to MFA Performance Program. Graduate level course in principles and methods of movement for the stage focusing on relaxation, centering, increased physical control, and physical development of a character. *Fall.*

TPP 5516C CAH-THEA 2(2,1)
Movement Studio II: PR: TPP 5515 or C.I. Principles and methods of movement for the stage focusing on gaining specific knowledge and skills in period styles of movement and basic unarmed combat. *Spring.*

TPP 5544C CAH-THEA 2(2,4)
Musical Theatre Dance I: PR: MFA Musical Theatre Majors. Advanced dance study with particular emphasis on the development of principles of alignment, coordination, isolation, and sequencing. *Fall.*

TPP 5555C CAH-THEA 2(2,4)
Musical Theatre Dance II: PR: TPP 5554C. Advanced dance study with particular emphasis on the development and expression of characterization in dance. *Spring.*

TPP 5715C CAH-THEA 2(2,1)
Stage Voice I: PR: Admission to MFA performance program. An introduction/review class examining the fundamentals of speaking on stage: the correct production of sound, breathing, relaxation of physical tension, and articulation *Fall.*

TPP 5716C CAH-THEA 2(2,1)
Stage Voice II: PR: Admission to the MFA Performance program and TPP 5715C or C.I. Continuation of Graduate Voice Production I, studying Skinner's narrow transcription with consonants, review of all Linklater work, and introduction to the work of Arthur Lessac. *Spring.*

TPP 5754 CAH-THEA 2(2,0)
Musical Theatre Voice I: PR: Admission to MFA Musical Theatre program. Voice study devoted to the diagnosis and development of the singing voice and its application to musical theatre performance placing particular emphasis upon vocal technique. *Fall.*

TPP 5935C CAH-THEA 2(2,2)
Contemporary Practices in Youth Theatre: PR: Admission to MFA graduate program or C.I. Investigation of a particular subject in youth theatre. May be used in the degree program a maximum of 5 times. *Odd Spring.*

TSL 3346 CAH-LANG 3(3,0)
English as an International Language: PR: Two semesters of college-level foreign language. Focus on English as it relates to native and non-native speakers. Topics include grammar, pronunciation, cross-cultural issues, and details about teaching English worldwide. *Fall/Spring.*

TSL 4080 ED-TL&L 3(3,0)
Theory and Practice of Teaching ESOL Students in Schools: PR: Junior standing or C.I. Focuses on methods of teaching English to Speakers of Other Languages (ESOL), ESOL curriculum and materials, cross-cultural understanding, applied linguistics in second language teaching, and test and evaluation of ESOL. *Fall/Spring.*

TSL 4240 CAH-LANG 3(3,0)
Issues in Second Language Acquisition: PR: TSL 4080. English phonology, morphology, syntax, and semantics, for future teachers. *Fall/Spring.*

TSL 4363 CAH-LANG 3(3,0)
ESL Classroom Experiences: PR: TSL 3346 (B- or better). Practical instruction and experiences for future teachers of English conversation. Includes micro-teaching in class as well as 25 hours of experience working with non-native speakers. *Spring.*

TSL 4942 ED-TL&L 3(3,0)
ESOL Field Experience: PR: TSL 4080. Practical application of research and theory on teaching and assessing academic subjects to second language (L2) learners in grades Pre-K-12. *Fall/Spring.*

TSL 4943 ED-TL&L 3(3,0)
L2 Academic Language Instruction: PR: TSL 4080. Research, theory, and practical application of teaching and assessing academic language and disciplinary literacy for second language (L2) learners in grades Pre-K-12. *Spring.*

TSL 4945 ED-TL&L 3(3,0)
ESOL Clinical Experience: PR: TSL 4942 and TSL 4943. Practical application of research and theory on teaching and assessing academic language and disciplinary literacy to second language (L2) learners in grades Pre-K-12. *Fall/Spring.*

TSL 5085 ED-TL&L 3(3,0)
Teaching Language Minority Students in K-12 Classrooms: PR: Admission to College of Education Master of Arts Program or C.I. Teaching K-12 limited English proficient (LEP) students. Florida standards regarding cross-cultural communication, ESOL curriculum, and materials, ESOL methodology, testing and evaluation of ESOL students, applied linguistics. *Fall/Spring.*

TSL 5325 CAH-LANG 3(3,0)
ESOL Strategies: PR: Graduate status or senior standing or C.I. This course will survey cross-cultural communication and understanding, testing and evaluation, curriculum and methods of teaching ESOL to meet the needs of limited English proficient students. *Occasional.*

TSL 5345 ED-TL&L 3(3,0)
Methods of ESOL Teaching: This course is designed to develop understanding, knowledge and skills of the current methods used in the teaching of ESOL. *Fall/Spring.*

TSL 5376 CAH-LANG 3(3,0)
Reading and Writing in a Second Language: PR: Graduate standing or C.I. Theoretical and pedagogical approaches to ESOL reading and writing. *Occasional.*

TSL 5380 CAH-LANG 3(3,0)
Computers and Technology for ESOL: PR: Graduate standing or C.I. Emphasizes research in computer assisted language learning, as well as design and evaluation of software and websites for learning English as a second language. *Occasional.*

TSL 5525 ED-TL&L 3(3,0)
ESOL Cultural Diversity: This course is designed to identify major cultural groups represented by the LEP population in Florida schools and to understand their special needs. *Occasional.*

TSL 5601 CAH-LANG 3(3,0)
Second Language Vocabulary Learning: PR: Graduate standing or C.I. Considers lexical issues encountered by second language learners; explores best practices for learners and their teachers and examines current research for pedagogical application. *Occasional.*

TSL 5940 CAH-LANG 3(3,0)
Issues in TEFL: PR: Graduate status or senior standing or C.I. Address issues specifically related to TEFL, such as materials adaptation, teaching in multi-level classrooms, learning styles, cultural issues, and curriculum syllabus design. *Spring.*

TTE 3810 ECS-CECE 3(3,0)
Highway Engineering: PR: STA 3032 with a grade "C" (2.0) or better; CR: CGN 3700C. Three functional classifications are covered: planning, design and operation of transportation facilities. Emphasis is on the highway transportation mode. *Fall/Spring.*

TTE 4274 ECS-CECE 3(3,0)
Transportation Engineering Systems: PR: TTE 3810 with a grade of "C" (2.0) or better. Topics such as safety, Intelligent Transportation Systems, and airport transportation will be covered. *Fall/Spring.*

TTE 4300 ECS-CECE 3(3,0)
Transportation Analytics: PR: TTE 3810 with a grade of "C" (2.0) or better. Qualitative and quantitative approaches to contemporary transportation challenges, including economic theory, optimization algorithms, statistical methods, and sustainable transportation alternatives. *Spring.*

TTE 4601C ECS-CECE 3(2,2)
Urban Systems Design: PR: TTE 4274 with a grade of "C" (2.0) or better and department consent. Project design course covering principles/techniques of planning, traffic analysis, and highway design. Including projecting traffic volumes, laying out alternative routes, designing of alignments/intersections. *Spring.* M&S fee \$25.00

TTE 5204 ECS-CECE 3(3,0)
Traffic Engineering: PR: TTE 3810 or C.I. Study of operator and vehicle characteristics, and design for street capacity, signals, signs, and markings. *Occasional.*

TTE 5805 ECS-CECE 3(3,0)
Geometric Design of Transportation Systems: PR: TTE 3810 or C.I. Study of highway geometric design in the engineering of transportation systems. *Occasional.*

TTE 5835 ECS-CECE 3(3,0)
Pavement Engineering: PR: EGN 3331, CGN 3501C, CEG 4011C. Pavement materials, analysis, evaluation, and management will be included to the current material. Thus, "Pavement Engineering" would be a proper course name. *Even Fall.*

VIC 3001 COS-COMM 3(3,0)
Visual Communication: PR: Either SPC 1608, SPC 1603C, COM 1000, or C.I. A study of human visual systems and influences of visual media on modern society. *Fall/Spring.*

VIC 4312 COS-COMM 3(3,0)
Power Branding: PR: Ad/PR majors only; MMC 3630, ADV 4101, and MMC 3420, or C.I. The importance of brand equity as well as how to build, measure, and manage brand equity. *Fall/Spring.*

UCF Courses and Descriptions

WOH 2012 CAH-HIST 3(3,0)
World Civilization I: A topical approach to the study of the rise and decline of world civilizations from the first attempts to the great civilizations of medieval times. *Fall, Spring.*

WOH 2012H CAH-HIST 3(3,0)
Honors World Civilization I: PR: Permission of Honors. The rise and decline of world civilizations from antiquity to the great civilizations of medieval times. Honors content. *Occasional.*

WOH 2022 CAH-HIST 3(3,0)
World Civilization II: Rise of modern civilization from 1500 to the present, with an emphasis on the confrontation between the Western and non-Western spheres of civilization. *Fall, Spring.*

WOH 2022H CAH-HIST 3(3,0)
Honors World Civilization II: PR: Permission of Honors. Rise of modern civilization from 1500 to the present, with an emphasis on the confrontation between the Western and non-Western spheres of civilization. Honors content. *Occasional.*

WOH 4272 CAH-HIST 3(3,0)
Age of Atlantic Revolutions 1763-1826: PR: AMH 2010 or C.I. Compares origins, development, and outcomes of the American, French, Latin American, and Haitian Revolutions. *Occasional.*

WST 3015 CAH-WOM 3(3,0)
Introduction to Women's Studies: PR: ENC 1102 or C.I. Interdisciplinary course introducing students to key issues and problems regarding women and gender relations in past and present societies. *Fall, Spring.*

WST 3015H CAH-WOM 3(3,0)
Honors Introduction to Women's Studies: PR: ENC 1102 and Consent of Honors. Focus on women and gender in a transnational context. With Honors content. *Even Spring.*

WST 3020 CAH-WOM 3(3,0)
Girls' Studies: PR: ENC 1102. Girls' Studies, an emerging field within Women's Studies, focuses on the material experiences of girls in U.S. and global cultures using academic and popular texts. *Occasional.*

WST 3371 CAH-WOM 3(3,0)
Women and Leadership: PR: ENC 1102. Interdisciplinary, feminist perspectives on women and leadership, examining issues such as gender differences in leadership styles, obstacles facing women leaders, and learning from women leaders. *Occasional.*

WST 3460 CAH-WOM 3(3,0)
Women, Race and Struggle: PR: ENC 1102 or C.I. Interdisciplinary study of issues, perspectives, and scholarship by and about women of color. *Occasional.*

WST 3460H CAH-WOM 3(3,0)
Honors Women, Race and Struggle: PR: Consent of Honors. Interdisciplinary study of issues, perspectives, and scholarship by and about women of color. With Honors content. *Occasional.*

WST 3500 CAH-WOM 3(3,0)
Gender Issues and Community Activism: PR: WST 3015 or C.I. Feminist perspectives applied to current community issues. Interdisciplinary analysis through service learning and field research. Issues will vary. May be repeated for credit. *Occasional.*

WST 3522 CAH-WOM 3(3,0)
First and Second Wave Feminisms: PR: ENC 1102. History of Western feminist thought, from the late eighteenth century to the 1980s, through texts by First and Second Wave Feminists. *Occasional.*

WST 3561 CAH-WOM 3(3,0)
Third Wave Feminisms: PR: WST 3015. Third wave feminist theories and practices with an activist focus. *Even Spring.*

WST 3603 CAH-WOM 3(3,0)
Introduction to Gender Studies: PR: ENC 1101. Historical and cultural foundations of gender, sexuality, and intersectional theories with attention to fluidity of identities and diversity of experiences. *Even Fall.*

WST 3621 CAH-WOM 3(3,0)
Theories of Masculinity: PR: ENC 1102. Masculinity from feminist perspectives, examining issues of race, class, sexuality, and violence, as well as constructions of masculinity in sports, family, and other institutions. *Occasional.*

WST 4002 CAH-WOM 3(3,0)
Research in Women and Gender Studies: PR: WST 3015. Relationships among feminist theory, research, social change, and gender equality as experienced at the workforce in private, public and non-profit spheres. *Occasional.*

WST 4021 CAH-WOM 3(3,0)
Girls and Leadership: PR: ENC 1102 and WST 3020. Feminist theory and practice related to the building of leadership skills in girls. Service learning component. *Occasional.*

WST 4022 CAH-WOM 3(3,0)
Girls and the Body: PR: ENC 1102 and WST 3020. Feminist theory and practice applied in an examination of body image as it relates to girls in contemporary society. Service learning component. *Occasional.*

WST 4023 CAH-WOM 3(3,0)
Virtual Girls: PR: ENC 1102 and WST 3020. Feminist theory and practice applied in an examination of the role of technology in the lives of young girls. Service learning component. *Occasional.*

WST 4349 CAH-WOM 3(3,0)
Ecofeminism: PR: ENC 1102 and WST 3015. Connections between feminism and the environment. *Occasional.*

WST 4415 CAH-WOM 3(3,0)
Global and Transnational Feminism: PR: ENC 1102 and WST 3015. Feminist theory from a global, multi-cultural perspective, combined with global feminist activism. Service learning component. *Occasional.*

WST 5347 CAH-WOM 3(3,0)
Research in Women and Gender Studies: PR: Graduate standing or senior standing, or C.I. To explore feminist research methodologies and investigate relationships among feminist theory, research, social change, and gender equality as experienced at the workforce in private, public and non-profit spheres. *Even Fall.*

WST 5601 CAH-WOM 3(3,0)
Theories in Gender Studies: PR: Graduate standing, Gender Studies graduate certificate standing, or C.I. Foundational scholarship in gender studies, with emphasis on theoretical and interdisciplinary approaches to gender and sexuality. *Even Fall.*

WST 5619 CAH-WOM 3(3,0)
Applied Gender Studies: PR: Graduate standing or C.I. Emphasize practical applications of gender theories and research in private and public sectors (i.e., the workforce, government agencies, global contexts) to strengthen leadership skills and enable effective policy and planning. *Even Fall.*

ZOO 3701C COM-BSBS 3(1,4)
Human Gross Anatomy & Dissection Techniques: PR: ZOO 3733C. Dissection techniques of the human body to teach students the skills required for the preparation of three dimensional materials(specimens). The primary student population should be junior/senior pre health professional applicants preparing for the basic medical sciences of professional schools. *Spring.* M&S fee \$70.00

ZOO 3713C COS-BIOL 5(3,6)
Comparative Vertebrate Anatomy: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. The vertebrate animals, relationships of organs and systems, and their phylogenetic significance. *Fall.* M&S fee \$65.00

ZOO 3733C COM-BSBS 4(3,3)
Human Anatomy: PR: BSC 2010C or equivalent. Structure of the human body. *Fall, Spring.* M&S fee \$6.00

ZOO 3733C COM-BSBS 4(3,3)
Honors Human Anatomy: PR: BSC 2010C or equivalent and Consent of Honors. Basic and functional anatomy in clinically oriented way to study systems within the human body. The lab component of this honors course provides enrichment and an opportunity to view cadaver specimens. With Honors Content. *Spring.* M&S fee \$6.00

ZOO 3736C COM-BSBS 4(3,2)
Exercise Physiology Anatomy: PR: BSC 2010C, C.I. Gross anatomy for exercise physiology majors. *Fall, Spring.* M&S fee \$6.00

ZOO 3744 COM-BSBS 3(3,0)
Neurobiology: PR: BSC 2010C. Biological principles governing the physiology of the nervous system including electrical properties, chemical signaling, cellular composition, development, injury and regeneration. *Fall, Spring.*

ZOO 3744H COM-BSBS 3(3,0)
Honors Neurobiology: PR: BSC 2010C and Honors Consent. Comprehensive discussion of cellular composition of the nervous system and functions of each cell type, electrical and chemical communication; including neuroanatomy and neuropsychology of chemical, somatic and auditory system. *Occasional.*

ZOO 3755C COM-BSBS 4(3,1)
Introductory Histology: PR: PCB 3703C or ZOO 3733C or equivalent. Basic principles of tissue staining, techniques, microscopy, cellular structure and other basic concepts. An introduction to the formation and structure of the four basic human tissues: Epithelium, Connective, Muscle & Nervous. Familiarizes students with normal cells, tissues structure and ultrastructure imaging. *Odd Fall, Odd Spring.*

ZOO 4205C COS-BIOL 4(3,3)
Biology and Ecology of Metazoan Invertebrates: PR: A "C" (2.0) or better in all the following; BSC 2010C, BSC 2011C, and PCB 3044, or C.I. Anatomy, ecology, taxonomy, behavior, evolution, and parasitological relations of the radiates, bilateria, acoelous, pseudocoelous, schizocoelous, and enterocoelous invertebrates. *Occasional.* M&S fee \$34.00

ZOO 4310C COS-BIOL 4(2,6)
Vertebrate Evolution & Ecology: PR: A "C" (2.0) or better in all the following; BSC 2010C, BSC 2011C, PCB 3044, and PCB 3063, or C.I. Vertebrate evolution and ecology, based on the paleontological and ecological literature. The laboratory places heavy emphasis on classification/identification and field work. *Occasional.* M&S fee \$65.00

ZOO 4462C COS-BIOL 4(2,4)
Herpetology: PR: C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories. *Occasional.*

ZOO 4480 COS-BIOL 4(4,0)
Mammalogy: PR: A "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Diversity and biology of mammals from an evolutionary perspective. *Even Spring.*

ZOO 4480L COS-BIOL 1(0,3)
Mammalogy Lab: CR: ZOO 4480. This lab will enhance topics covered in the lecture further exploring the anatomy and identification of mammals with hands-on experience. *Fall.*

ZOO 4513 COS-BIOL 3(3,0)
Animal Behavior: PR: A "C" (2.0) or better in PCB 3044. Study of the current ideas in animal behavior, including the mechanism of behavior and evolutionary explanations. *Odd Fall.*

ZOO 4603C COS-BIOL 5(3,4)
Embryology/Development: PR: A "C" (2.0) or better in both PCB 3063 and PCB 3023, or PCB 3522, or C.I. Concepts of developmental processes. Emphasis on mechanisms underlying vertebrate development. *Spring.* M&S fee \$22.00

ZOO 4605 COM-BSBS 3(3,0)
Human Clinical Embryology and Congenital Malformation: PR: ZOO 3733C. Advanced functional human clinical embryology with focus on congenital abnormalities. *Occasional.*

UCF Courses and Descriptions

ZOO 4742 COM-BSBS 3(3,0)
Advanced Neurobiology: PR: ZOO 3744.
 Advanced topics in movement, vision, motivation, sex and brain, emotions, biological rhythms, sleep, language, attention, mental illness, development, learning, memory, degeneration, regeneration. *Spring.*

ZOO 4743C COM-BSBS 4(3,1)
Clinical Neuroanatomy and Neuroscience: PR: ZOO 3733C with a B (3.0) or better. Basic and applied neurosciences with attention to normal function and pathologic states of the nervous system relevant to practice of general medicine and/or neuroscience. *Fall.*

ZOO 4743C COM-BSBS 4(3,2)
Honors Clinical Neuroanatomy: PR: ZOO 3733C and Honors consent. Basic and applied neurosciences with attention to normal function and pathologic states of the nervous system relevant to practice of general medicine and/or neuroscience. *Occasional.*

ZOO 4747C COM-BSBS 4(3,1)
Honors Clinical Neuroscience: PR: ZOO 3744 or ZOO 4743C and consent of Honors. Clinically oriented teachings of neuroscience areas including selected topics in neuropathology, neuro-oncology, neuroimmunology, neuropharmacology and neurodiagnostics with Honors content. *Spring.*

ZOO 4747C COM-BSBS 4(3,1)
Clinical Neuroscience: PR: ZOO 3744 or ZOO 4743C. Clinically oriented teachings in major neuroscience areas including selected topics in neuropathology, neuro-oncology, neuroimmunology, neuropharmacology, and neurodiagnostics. *Spring.*

ZOO 4753C COM-BSBS 4(3,3)
Vertebrate Histology: PR: ZOO 3733C.
 Microanatomical detail plus appropriate developmental and functional considerations of major cell types, primary tissues, organs, and organ systems. Survey of modern animal-tissue microtechnique. *Spring.* M&S fee \$70.00

ZOO 4910L COS-BIOL VAR(0,VAR)
Research Experience in Animal Behavior in a Zoo Environment: PR: A minimum grade of a 'B' (3.0) in ZOO 4513. Observing, documenting, and analyzing animal behavior in a zoological setting. *Fall, Spring.*

ZOO 5456C COS-BIOL 4(2,6)
Ichthyology: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the biology of the fishes, their classification, evolution, and life histories. *Occasional.* M&S fee \$25.00

ZOO 5463C COS-BIOL 4(2,4)
Herpetology: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories. *Odd Spring.* M&S fee \$60.00

ZOO 5475L COS-BIOL 3(0,6)
Field Ornithology: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the identification, taxonomy, natural history, and biology of birds, with emphasis on survey techniques and systematics. *Occasional.* M&S fee \$30.00

ZOO 5486 COS-BIOL 4(4,0)
Mammalogy: PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Study of the diversity and biology of mammals from an evolutionary perspective. *Even Spring.*

ZOO 5745C COM-BSBS 4(3,3)
Essentials of Neuroanatomy: PR: Human/Comparative Anatomy, or Human/Animal Physiology or C.I. Fundamental concepts of both morphological and functional organization of the nervous system. Primary emphasis on human structure. *Occasional.* M&S fee \$15.00

ZOO 5748C COM-BSBS 5(3,2)
Clinical Neuroanatomy: PR: ZOO 3733C Human Anatomy. Provides the necessary knowledge to understanding the complexities of human nervous system, its normal and pathologic functions, relevant to practice of general medicine and/or neuroscientists. *Fall.*

ZOO 5749C COM-BSBS 5(3,2)
Clinical Neuroscience: PR: ZOO 3733C and ZOO 3744, or ZOO 3733C and ZOO 4743C or ZOO 5748C, or equivalents. Clinically oriented teachings of neuroscience areas including selected topics in neuropathology, neuro-oncology, neuroimmunology, neuropharmacology, and neurodiagnostics. *Spring.*

