## COURSE DESCRIPTIONS

### ACG 2021 Principles of Financial Accounting (3) BA ACC
- Study of basic accounting principles including the recording and reporting of financial activity. The preparation and interpretation of financial statements.

### ACG 2071 Principles of Managerial Accounting (3) BA ACC
- PR: ACG 2021 with a grade of C or better
- A study of the accountant's role in assisting management in the planning and controlling of business activities.

### ACG 3074 Managerial Accounting for Non-Business Majors (3) BA ACC
- The study of the uses of accounting data internally by managers in planning and controlling the affairs of organizations.

### ACG 3103 Intermediate Financial Accounting I (3) BA ACC
- PR: ACG 2021, with a minimum grade of C and ACG 2071, with a minimum grade of C
- CPR: ACG 3401 or ACG 3341 or TAX 4001, with a minimum grade of C
- Theory and methodology underlying financial reporting, including the FASB's conceptual framework, the accounting process, financial statements, accounting changes, present value applications, and current assets.

### ACG 3113 Intermediate Financial Accounting II (3) BA ACC
- PR: ACG 3103 and (ACG 3341 or ACG 3401 or TAX 4001), with a grade of C
- Continuation of ACG 3103. Topics covered include property, plant and equipment, intangibles, current liabilities, long-term debt, leases, tax allocation, statement of cash flows.

### ACG 3341 Cost Accounting and Control I (3) BA ACC
- PR: ACG 2021 and ACG 2071 with a grade of C
- CPR: ACG 3103, with a grade of C
- Deals with cost accounting systems for different entities, cost behavior patterns, cost-volume-profit analysis, relevant information for decision making, and budgets and standard costs for planning and control.

### ACG 3401 Accounting Information Systems (3) BA ACC
- PR: ACG 3103 and ACG 3341, with a grade of C
- CPR: ACG 3103, with a grade of C
- This course provides students with a basic understanding of well-controlled information systems in a variety of technological environments with added emphasis on the collection, processing, and reporting of accounting information.

### ACG 4123 Intermediate Financial Accounting III (3) BA ACC
- PR: ACG 3113 with a grade of C or better, not C-
- Theory and practice underlying stockholders’ equity, dilutive securities and EPS, derivatives, revenue recognition, post-retirement benefits, error analysis, full disclosure, and other current accounting topics.

### ACG 4351 Cost Accounting And Control II (3) BA ACC
- PR: ACG 3103 and ACG 3341 with a grade of C or better, not C-
- Application of the material covered in ACG 3341 with specific emphasis on cost allocations, performance measurements, analysis of current cost accounting systems and accounting in today's environment (giving consideration to the influences of the international environment).

### ACG 4632 Auditing I (3) BA ACC
- PR: ACG 3113 and ACG 3401
- This course provides a sound conceptual foundation of basic auditing process from the perspective of the public accounting profession. Professional standards, ethics, legal responsibilities, and the utilization of technology are addressed.

### ACG 4642 Auditing II (3) BA ACC
- PR: ACG 4632 with a grade of C or better, not C-
- Further development of material covered in ACG 4632, with special emphasis on additional reporting topics and audit techniques not previously addressed.

### ACG 4901 Independent Study (1-3) BA ACC
- Specialized independent study determined by the students' needs and interests.

### ACG 4911 Independent Research (1-4) BA ACC
- Individual study contract with instructor and director required. The research project will be mutually determined by the student and instructor.

### ACG 4931 Selected Topics in Accounting (1-3) BA ACC
- The course content will depend on student demand and instructor's interest.

### ACG 4940 Accounting Internship (3) BA ACC
- This course consists of two components: an academic component focused on professional development skills and an on-site experiential learning experience comprised of at least 120 hours of on-site experience.

### ACG 4970 Accounting Honors Thesis WRIN 6ACT (3) BA ACC
- This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

### ACG 5007 MBA Essentials: Accounting (0) BA GBA
- A survey course related to both financial accounting and managerial accounting. An examination of accounting concepts for presentation of financial information to interested users as well as information generated for internal management.

### ACG 5205 Advanced Financial Accounting (3) BA ACC
- PR: ACG 3113
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Accounting for business combinations, preparation of consolidated financial statements, home office/branch relationships, foreign operations and transactions, partnerships.

ACG 5505 Governmental/Not-For-Profit Accounting (3) BA ACC
PR: ACG 3113
CR: ACG 4632
Application of financial and managerial accounting, and auditing, principles and theory to both governmental and not-for-profit entities.

ACG 5675 Internal and Operational Auditing (3) BA ACC
PR: ACG 3113 and ACG 3401
CR: ACG 4632
The objective of Internal and Operational Auditing is to provide students with an opportunity to learn about the theory and practice of internal and operational auditing and to apply relevant audit principles and techniques to selected audit problems.

ACG 5841 Analytics in Accounting (3) BA ACC
PR: ACG 4632, or admission to Muma COB MBA program
This course deals with analytics, understood as the discovery and communication of meaningful patterns. The focus is on accounting applications of analytics, after first understanding statistical techniques and data manipulation processes and tools.

ADE 4384 Working With the Adult Learner (3) ED LCA
An investigation of the needs of the adult learner. Identification of principles of adult learning; physiological, psychological, and social characteristics of adult learners, and corresponding implications are explored.

ADV 2214 Graphic Programs in Mass Communications (3) AS MCM
Introduction to visual communication theory and applications, emphasizing the history, principles, and practices of design in mass media. Students will apply principles to develop and construct media content for global audiences.

ADV 3008 Introduction to Advertising (3) AS MCM
PR: MMC 2100 and MMC 3602
A study of the structures, functions, and persuasive language of advertising in mass media with attention to social, political, economic, and legal aspects.

ADV 3101 Advertising Creativity (3) AS MCM
PR: ADV 3008 and ECO 1000
Study of copywriting and art direction in the creation of advertising messages for alternative media platforms. Restricted to majors only.

ADV 3200 Advertising Design (3) AS MCM
PR: ADV 3008 (for advertising sequence majors) or VIC 3001 (for other Mass Comm majors)
Application of graphic design principles to various areas of advertising. Combining visual and verbal elements effectively.

ADV 3300 Advertising Media Strategy (3) AS MCM
PR: ADV 3008 and ECO 1000
Problems, techniques, strategy of media research, planning, budgeting and effective utilization in advertising.

ADV 3500 Advertising Research (3) AS MCM
PR: ADV 3008
Overview of scientific research methods as used in advertising. Emphasis on the acquisition, analysis, and evaluation of primary and secondary data, and the principles of survey and experimental research.

ADV 4204 Advanced Advertising Creativity (3) AS MCM
PR: ADV 3101, ADV 3300, ADV 3500, ADV 4600, ECO 1000, MAR 3023
Focused on producing advertising messages, the curriculum incorporates: ethics, branding, consumer insight, message strategy, concepting, persuasion, copywriting, design, and presentations. Students learn to execute effective advertising messages.

ADV 4301 Advanced Media Strategy (3) AS MCM
PR: ADV 3101, ADV 3300, ADV 3500, ADV 4600, ECO 1000, MAR 3023
Emphasizing decision making and critical thinking, this advanced course prepares students for the complexities of advertising media planning, implementation, and evaluation.

ADV 4310 Digital Media (3) AS MCM
PR: ADV 3101, ADV 3300, ADV 3500, ADV 4600, ECO 1000, MAR 3023
This course focuses on the impact of new communication technologies on consumer behavior and advertising practice. Students will learn the nature of digital media options and how to incorporate them into advertising planning.

ADV 4600 Advertising Management (3) AS MCM
PR: ADV 3008, ADV 3101, ADV 3300
Application of analytical planning concepts to advertising planning and decision-making. Case study method used to explore advertising and promotional programs; media and creative strategies; consumer, retail, industrial, and public service applications.

ADV 4710 Portfolio Building (3) AS MCM
PR: ADV 3101, ADV 3300, ADV 3500, ADV 4600, ECO 1000, MAR 3023
This course goes beyond the basics of copy and layout to develop a broader understanding of the creative advertising process. It stresses creativity and organizational ability in portfolio building, along with technical skills in portfolio production.

ADV 4800 Advertising Campaigns (3) AS MCM
PR: ADV 3101, ADV 3300, ADV 3500, ECO 1000, and MAR 3023
Advanced advertising course requiring planning and production of complete general advertising campaign, including research, production methods, budgeting, and media schedules.

ADV 4940 Advertising Internship (1-3) AS MCM
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CPR: ADV 3008 with a minimum grade of C
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

ADV 5005 Advertising Planning (3) AS MCM
Introduction to the process of developing advertising strategy, emphasizing theory and research methods. Applied research course to bridge research methods with execution of creative messaging strategies that drive business success.

ADV 5508 Return on Advertising Investment (3) AS MCM
An in-depth analysis of the performance metrics required to determine the success of advertising and marketing in fiscally accountable business practice. Metrics will include both quantitative and qualitative measures of advertising planning.

ADV 5825 Advertising Proseminar (3) AS MCM
Students will learn the basic concepts of advertising, public relations, promotion, branding, and direct marketing and their applications for integrated marketing campaigns.

AFA 2000 Introduction to the Black Experience [In Africa and Its Diaspora] CASB 6ACT (3) AS AFA
Fundamental perspectives on the nature and significance of the Black Experience in Africa and black communities in the Americas.

AFA 2380 History and Theory of Genocide CAGC (3) AS AFA
This course examines the concept of genocide: its origins in human history and the evolution of international law aimed at defining and criminalizing genocide.

AFA 4150 Africa and the United States 6ACT (3) AS AFA
An examination of the historical and current political, economic, and cultural relations between the United States and Africa.

AFA 4335 Black Women in America CPST 6ACT (3) AS AFA
An interdisciplinary survey of the contemporary experience of black women in America, including the African roots, myths, and realities surrounding that experience.

AFA 4350 African American Community Research (3) AS AFA
This interactive, field experience course introduces students to active and applied research methodologies and the uses of this research in Black urban communities.

AFA 4430 Afro-Diasporic Literature and Political Movements CPST HHCP (3) AS AFA
The course studies the literary and socio-political movements of the Black Diaspora, dating from the 19th to the 20th century. Centered within a diasporic approach, it offers a comparative examination of literary, historical, and theoretical works.

AFA 4500 Slavery in the Americas and the Caribbean (3) AS AFA
This course examines the institution of enslavement in North, South, and Central America, and the Caribbean. It takes an interdisciplinary approach in exploring the social, political, and economic underpinnings of slavery.

AFA 4900 Directed Readings (2-3) AS AFA
Independent readings in a particular area of African and African American Studies, selected by student and instructor.

AFA 4931 Selected Topics in Africana Studies (1-3) AS AFA
Topics offered are selected to reflect student needs and faculty interests. In depth study in such areas as the Black Student and the American Educational Process; the Black Experience in the Americas; European Expansion in Africa to 19th century; Contemporary Economic Problems in Africa.

AFH 3100 African History to 1850 CAHU HHCP (3) AS AFA
Introductory survey of African history, from the beginning of the continent's recorded history, to 1850. Course teaches skills reflected in the core foundations of knowledge in the General Education Curriculum.

AFH 3200 African History since 1850 CAHU HHCP (3) AS AFA
Introductory survey of the history of Africa since 1850. Course looks at the state of the African continent in 1850 and the local and global factors that have shaped Africa's history since that time.

AFR 1101 The Foundation of the United States Air Force Pt 1 (1) US AFR
Intro Air Force Reserve Officer Training Corps (AFROTC) & US Air Force (USAF) includes lessons in officership/professionalism and an intro to communication skills. AFR 2001 Lead Lab augments course providing followership and leadership experiences.

AFR 1120 The Foundations of the United States Air Force Pt 2 (1) US AFR
A study of Air Force installations, Core Values, Leadership, Team Building, and Diversity within Armed Forces. AFR 2001 Lead Lab augments course providing followership and leadership experiences, utilizing leadership and management principles.

AFR 1903 Directed Independent Studies (1-4) US AFR
Directed Independent Study.

AFR 2001 Air Force ROTC Leadership Laboratory (0) US AFR
Leadership Laboratory is required for each of the Aerospace Studies courses. It meets one hour and 45 minutes per week. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to
develop each student’s leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical laboratory, which typically includes field trips to Air Force installations.

AFR 2130 Evolution of USAF Air and Space Power, Part I (1) US AFR
CR: AFR 2001
A study of air power from balloons and dirigibles through the jet age. Emphasis is on the employment of air power in WWI and WWII and how it affected the evolution of air power concepts and doctrine.

AFR 2140 Evolution of USAF Air and Space Power, Part II (1) US AFR
CR: AFR 2001
A historical review of air power employment in military and nonmilitary operations in support of national objectives. Emphasis is on the period from post WWII to present.

AFR 2220 Air Force Management and Leadership I (3) US AFR
CR: AFR 2001
An integrated management course emphasizing the individual as a manager in an Air Force milieu. The individual motivational and behavioral processes, leadership, communication, and group dynamics are covered to provide a foundation for the development of the junior officer’s professional skills as an Air Force officer (officership). The basic managerial processes involving decision making, utilization of analytic aids in planning, organizing, and controlling in a changing environment are emphasized as necessary professional concepts.

AFR 2321 Air Force Management and Leadership II (3) US AFR
CR: AFR 2001
A continuation of the study of Air Force advancement and leadership. Concentration is on organizational and personal values, management of forces in change, organizational power, politics, and managerial strategy and tactics are discussed within the context of the military organization. Actual Air Force cases are used to enhance the learning and communication processes.

AFR 4201 National Security Affairs & Preparation for Active Duty I (3) US AFR
CR: AFR 2001
Examines national sec proc, regional studies, adv leadership ethics, AF doctrine with concentration on military as profession, communication/officership/mil justice/civil control of mil/prep for active duty, current issues affecting military professionalism.

AFR 4211 National Security Affairs & Preparation for Active Duty II (3) US AFR
CR: AFR 2001
Cont study national sec proc, reg studies, adv leader ethics, & AF doct. Spec topics include reg study Europe, Mid East, Russia (former Soviet Republics), perform feedback, effective performance report writing, enl/off eval sys, ops risk mgmt to prep students for active duty.

AFS 2250 Culture and Society in Africa 6ACT (3)
AS AFA
Topics include: African religion, value systems, art and the aesthetics, family and life-cycle, impact of Islam and Christianity and conflict of cultures.

AFS 3251 Environmental - Cultural Study in Africa (3) AS AFA
PR: AFS 2250
Study tour. A study of traditional African society and culture, the relationship between life and the environment, and the impact of modernization on the culture and the environment.

AFS 4910 Individual Research (1-3) AS AFA
PR: 2000 level introductory course
Course consists of advanced undergraduate research on Africana Studies topic selected by student and professor. Topics vary. The course allows students to develop research skills and independent work discipline.

AMH 2010 American History I CAHU HHCP (3) AS HTY
This class is an introductory survey of American history from Columbus and "First Contact" to Reconstruction.

AMH 2020 American History II CASB HHCP (3) AS HTY
A history of the United States with attention given to relevant developments in the Western Hemisphere from 1877 to the present.

AMH 3098 Race in America (3) AS HTY
This course explores the histories of race, ethnicity, immigration, racism, and racial formation in the United States. The course will treat race as both a social construction and a category of lived experience that has had very real historical effects.

AMH 3110 American Colonial History to 1750 (3) AS HTY
A study of the evolution of American society from the Age of Reconnaissance to 1750. Attention is given to the transformation from colonies to provinces with emphasis on ethnocultural conflict, religion, labor systems, and political culture.

AMH 3130 The American Revolutionary Era (3) AS HTY
Emphasis on the causes of the American revolution, the nature of Constitution-making, and the establishment of the federal system. Also examines the significance of loyalism, violence, and slavery in American society from 1750-1789.

AMH 3140 The Age of Jefferson (3) AS HTY
A comprehensive study of American society and political culture from 1789-1828. Focuses on demographic trends, party systems,
expansionism, Indian policy, labor, and ethnocultural conflicts.

AMH 3160 The Age of Jackson (3) AS HTY
The United States from 1828-1850, with emphasis on social and political conflict. Consideration of evangelicalism, reform, labor movements, urbanization, and political activity in the antebellum era.

AMH 3170 The Civil War and Reconstruction (3) AS HTY
An examination of political, social, and economic climate of the 1850’s that led to the American Civil War. The course does focus upon the war itself in its military, diplomatic, and political consequences through the end of the Reconstruction (1877).

AMH 3201 The United States, 1877-1914 (3) AS HTY
A study of America from the end of Reconstruction to World War I. Ranging over political, social, and international developments, the course covers industrialization, immigration, unions, reform, feminism, race relations and imperialism.

AMH 3231 The United States, 1914-1945 (3) AS HTY
The United States from World War I to the end of World War II. Covering political, social and international developments, the course examines the lives of Americans, including minorities and women, during war, prosperity, and the Great Depression.

AMH 3270 The United States since 1945 (3) AS HTY
A study of America’s role in the Cold War, in Vietnam, and in the post-Cold War era. Also examines domestic developments, such as the consumer culture, protest movements, and abuses of political power.

AMH 3341 American Food and Drink History (3) AS HTY
Traces the history of American food and beverages from the pre-contact era to the present. Examines the cultural, social, economic, and global aspects of food production and consumption and the intersection between food culture, traditions, and history.

AMH 3342 Globalization and U.S. Culture GCPC (3) AS HTY
This course examines how the U.S. has influenced global culture, food, technology, economic practices, and political ideas, but also how global processes and trends have, in turn, shaped U.S. culture and society. The focus is from 1776-present.

AMH 3390 19th Century America History (3) AS HTY
A comprehensive history of society, culture, and politics in the long nineteenth century, 1783-1914. Focuses on the development of liberalism, capitalism, democracy, imperialism, slavery, and religion.

AMH 3402 Southern History, 1607-1865 (3) AS HTY
The history of the U.S. South from European exploration to the Civil War. Topics covered include: slavery, black culture and resistance, agrarianism, women and gender, honor culture, the pro-slavery argument, sectionalism, and the Civil War.

AMH 3403 The South since 1865 (3) AS HTY
Southern history since the surrender at Appomattox. Topics covered include Reconstruction, the Populist revolt, race relations, demagoguery and disfranchisement, Southern women, and the Civil Rights Movement.

AMH 3421 Early Florida (3) AS HTY
A history of colonial Florida under the Spanish and English. Florida as an area of discovery, colonization, and imperial conflict; the emergence of Florida within the regional setting.

AMH 3423 Modern Florida (3) AS HTY
An historical survey of Florida from the territorial period to the modern era. An examination of the social, political, and economic changes occurring in Florida between 1821 and the 1980s.

AMH 3500 American Labor History (3) AS HTY
A study of American workers from the colonial period to the present. Examines the changing nature of work, its effects on workers (including minorities and women), and their responses as expressed in strikes, unions, and political action.

AMH 3512 U.S. Foreign Relations (3) AS HTY
U.S. relations with the world, 1776-present. Includes diplomatic, economic, cultural, and military relations. The course also examines immigration and other global influences on U.S. domestic history and analyzes changes in internationalist thought.

AMH 3530 Immigration History (3) AS HTY
A study of the composition and character of the "American" people with emphasis on the period from 1840s to the 1920s. Examines old world backgrounds of immigrants and their responses to the new world's social, economic and political conditions.

AMH 3545 War and American Empire (3) AS HTY
The U.S. evolved in 200 years from 13 colonies to the number one power in the world. To achieve this goal we utilized war to achieve empire. This course will examine the link between American War and empire from the Revolution through Viet Nam.

AMH 3561 American Women I (3) AS HTY
A study of women in the evolution of American society from European origins to 1877. Women's roles in the family, economy, politics, wars, and reform movements will be examined.

AMH 3562 American Women II (3) AS HTY
A study of women in the evolution of American society from 1877 to the present. Women's roles in the family, economy, politics, immigration, wars, religion and reform movements will be examined.

AMH 3571 African American History to 1865 CAHU HHCP (3) AS AFA
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This course surveys the history of people of African-descent in the U.S. from the beginning of the Atlantic Slave Trade to 1865. Major topics include the rise & fall of slavery, ethnic & racial identities, resistance, gender, culture, and community.

AMH 3572 African American History since 1865 CAHU HHCP (3) AS AFA
This course explores the history of African Americans since 1865. Major topics include the struggle for equality, class and gender dimensions of the Black freedom struggle, and the varied approaches in the fight against oppression and inequality.

AMH 3630 American Environmental History (3) AS HTY
History of the American Environment and the ways in which different cultural groups have perceived, used, managed and conserved ii, from Colonial times to present.

AMH 4940 Early American History and Archaeology Internship (6) AS HTY
This course is a five week long summer practicum in early American historical archaeology. The class brings together historical research, material culture studies, and historical archaeology methods within a professional historical archaeology setting.

AML 3031 American Literature From the Beginnings to 1860 (3) AS ENG
A study of representative works from the period of early settlement through American Romanticism, with emphasis on such writers as Cooper, Irving, Bryant, Hawthorne, Emerson, Melville, Thoreau, and Poe, among others.

AML 3032 American Literature From 1860 to 1912 (3) AS ENG
A study of representative works of selected American Realists and early Naturalists, among them Whitman, Dickinson, Twain, James, Howells, Crane, Dreiser, Wharton, Robinson, Dunbar, and Johnson.

AML 3051 American Literature From 1912-1945 (3) AS ENG
A study of poetry, drama, and fiction by such writers as Pound, Stein, Fitzgerald, Hemingway, Faulkner, Porter, Toomer, Cummings, Williams, Anderson, Steinbeck, Wright, West, Stevens, Henry Miller, and others.

AML 3243 American Literature 1945 to the Present (3) AS ENG
This course traces some of the critical developments in Contemporary American literature, investigating forms of experimentation in contemporary works and relating various thematic modes to aesthetics, literary genres, and important cultural events.

AML 3413 Historical Perspectives in Early American Literature (3) AS ENG
Examines American literature from the Colonial Period to the Civil War as a manifestation of geographical, political, social, and intellectual forces. Will not be counted toward the English major.

AML 3604 African American Literature WRIN 6ACT (3) AS ENG
A study of black American literature from the nineteenth century to the present, including the works of such writers as W.E.B. Dubois, Jean Toomer, Langston Hughes, Richard Wright, Ralph Ellison, LeRoi Jones, and Nikki Giovanni.

AML 3630 U.S. Latino/Latina Literature in English (3) AS ENG
PR: ENC 1101 and ENC 1102
This 3000-level literature course surveys American English literature by Latino/Latina writers (with Spanish American ancestry). Authors may include Piri Thomas, Sandra Cisneros, Esmeralda Santiago, Luis Valdés, Tomás Rivera, Oscar Hijuelos, etc.

AML 3641 Native American Literature and Film (3) AS ENG
This course is a critical survey of Asian American popular culture, especially literature and film. We will emphasize the social and political contexts out of which these productions emerge by analyzing political cartoons, articles, discourses, etc.

AML 3674 Asian American Literature and Film (3) AS ENG
This course surveys the history of people of African descent in the U.S. from the beginning of the Atlantic Slave Trade to 1865. Major topics include Piri Thomas, Sandra Cisneros, Esmeralda Santiago, Luis Valdés, Tomás Rivera, Oscar Hijuelos, etc.

AML 4111 Nineteenth-Century American Novel (3) AS ENG
A study of the American novel from its beginnings through 1900, including such novelists as Cooper, Hawthorne, Melville, Twain, Crane, and Dreiser, among others.

AML 4121 Twentieth-Century American Novel (3) AS ENG
A study of major trends and influences in American prose fiction from 1900 to the present, including works by such writers as Hemingway, London, Wharton, Fitzgerald, Faulkner, West, Mailer, Bellow, Ellison, Donleavy, Updike, Vonnegut, and others.

AML 4261 Literature of the South (3) AS ENG
A study of the major writers of the Southern Renaissance, including writers such as Faulkner, Wolfe, Caldwell, Hellman, McCullers, O’Connor, Warren, Styron, Tate, Davidson, and Dickey.

AML 4300 Selected American Authors (3) AS ENG
The study of two or three related major authors in American literature. The course may include such writers as Melville and Hawthorne, Hemingway and Faulkner, James and Twain, Pound and Eliot, Stevens and Lowell, etc. Specific topics will vary. May be taken twice for credit with different topics.

AML 4624 Black Women Writers 6ACT (3) AS AFA
COURSE DESCRIPTIONS

Black women writers focuses on the literature of women of Africa and the African Diaspora. It examines the social, historical, artistic, political, economic, and spiritual lives of Africana women in context of a global community.

**AMS 2030 Introduction to American Studies CAHU**
**HHCP (3) AS HCS**
An overview of American Studies, the interdisciplinary study of American culture. Analysis of the arts and literature, including music; social issues; popular culture; material culture; cultural diversity; and social change.

**AMS 2201 Colonial American Culture (3) AS HCS**
An examination of cultural patterns in America as they developed between 1600 and 1780 with an emphasis on the texture of everyday life.

**AMS 2270 Twentieth-Century American Culture CAHU HHCP (3) AS HCS**
An examination of cultural patterns in America from 1900 to the present with emphasis on the texture of everyday life.

**AMS 2363 Issues in American Civilization (1-3) AS HCS**
An examination of selected topics such as natural environment and the quality of life, sports and American society, popular music, American communities, vigilante tradition, jazz music, role of the family, American success myth, youth in America. Topic varies.

**AMS 3001 American Culture 1880-1915 6ACT (3) AS HCS**
Integration of major aspects of American life between the 1880s and World War I.

**AMS 3212 Nineteenth-Century American Culture (3) AS HCS**
An examination of cultural patterns in America from 1776 to 1900 with an emphasis on the texture of everyday life.

**AMS 3230 America During the 1920s and 1930s 6ACT (3) AS HCS**
Course provides an interdisciplinary examination of American culture during the turbulent interwar years, 1919 through 1941. Students will examine how the arts, advertising, fashion, and social behavior registered changing cultural values.

**AMS 3260 American Culture, 1830-1860 6ACT (3) AS HCS**
Examines the patterns of American culture in the years leading up to the Civil War. Topics include religion and social reform, race relations, and the impact of industrialization.

**AMS 3302 Architecture and the American Environment (3) AS HCS**
By means of slides, lectures and discussion, this course examines 350 years of American architectural history. Architectural styles, aesthetics and the relation between a building and its social environment are stressed.

**AMS 3370 Southern Women: Myth and Reality WRIN 6ACT (3) AS HCS**
This course will identify the myths surrounding Southern women, discern their sources and purposes, and contrast them with history.

**AMS 3601 Material Culture and American Society (3) AS HCS**
By means of slides, lectures and student projects, examines connections between artifacts and American cultural attitudes from 17th century to present. Topics include: architecture, furniture, gravestones, toys, and the material subcultures of women, African-Americans and communal societies.

**AMS 3605 Working Class Culture in America CPST (3) AS HCS**
An interdisciplinary examination of the cultural identity of American working class families from WWII to present.

**AMS 3615 Film & American Society WRIN 6ACT (3) AS HCS**
This course offers a broad introduction to American cinema history. Exploring the aesthetic and ideological consequences of a variety of genres and modes, it also asks how individual films engage historically specific socioeconomic and cultural context.

**AMS 3700 Racism in American Society CASB (3) AS AFA**
This course will help students understand the extent and causes of racism, anti-Semitism and prejudice in the U.S. They will learn how prejudice arises, the roots of racism, and its effects on society using lectures and videos.

**AMS 3930 Selected Topics in American Studies (1-3) AS HCS**
Offerings include Cultural Darwinism in America, America Through Foreign Eyes, and The Female Hero in American Culture.

**AMS 4210 Regions of America (3) AS HCS**
The pattern of American culture as revealed through an examination of selected writings and other pertinent materials dealing with selected American regions. Topic varies.

**AMS 4305 Photography and American Society (3) AS HCS**
A survey of photography as an art and a craft in America since the mid-nineteenth century. Attention devoted to technological innovations, leading personalities, major movements, and memorable icons. Open to majors and non-majors.

**AMS 4804 Major Ideas in America CPST (3) AS HCS**
Investigates the role of one or more influential ideas in American culture, for example: individualism, identity, community, dissent, reform, utopianism, democracy. Emphasizes the critical analysis of a variety of primary texts. Topic varies.

**AMS 4910 Individual Research (1-4) AS HCS**
The content of the course will be governed by student demand and instructor interest. Instructor approval required prior to registration.
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AMS 4930 Selected Topics in American Studies (1-3) AS HCS
Offerings include the social implications of American painting, Technology in Twentieth Century America, American Environmental Problems, Popular Culture in America, American Military Experience, and Labor in America.

AMS 4932 Topics in American Film (3) AS HCS
Topical course on American film genres and themes. Variable topics such as: series on a region, performer, subject, or period of time.

AMS 4935 Senior Seminar in American Studies CPST (3) AS HCS
PR: HUM 3804, HUM 4331 and AMS 4936
The American Studies Senior Seminar focuses on the writing of a substantial research paper. Topic varies.

AMS 4936 American Studies Pro-Seminar (3) AS HCS
PR: HUM 3804
A course emphasizing the analysis of primary works in relation to cultural contexts, the integration of secondary sources, and the construction of a written argument. Topic varies.

AMS 4940 Internship in American Studies (1-3) AS HCS
A structured, out-of-class learning experience designed to provide first-hand, practical training in careers related to American Studies.

ANG 5395 Visual Anthropology (3) AS ANT
This class will examine the major dimensions of visual anthropology with an emphasis on the visual means of presenting anthropology to the discipline and general public. The course will focus on visual documentation and study of visual images.

ANG 5486 Quantitative Methods in Anthropology (3) AS ANT
This course is an introduction to quantitative methods for the anthropologist covering both classical statistical approaches and exploratory data analysis, using computers with statistical software.

ANG 5901 Directed Reading (1-4) AS ANT
Individual guidance in concentrated reading on a selected topic in Anthropology. Contract required prior to registration.

ANG 5910 Individual Research (2-4) AS ANT
Individual guidance in selected research project.

ANG 5937 Seminar In Anthropology (2-4) AS ANT
Topics to be chosen by students and instructor.

ANT 2000 Introduction to Anthropology CASB (3) AS ANT
The cross-cultural study of the human species in biological and social perspective. Surveys the four major branches of anthropology: physical anthropology, archaeology, linguistic anthropology, and cultural anthropology.

ANT 2410 Cultural Anthropology CAGC (3) AS ANT
Students are exposed to methods and concepts for cross cultural study of the world's peoples. Case studies demonstrate variations in human adaptation and encourage an understanding of and appreciation for diverse cultures and their values.

ANT 2464 Global Health from a Social Science Perspective CAGC (3) AS ANT
Using global health as a lens, this course will introduce students to critical interdisciplinary challenges that will shape the world in the future. It combines classroom and experiential learning while accessing the extraordinary resources of London.

ANT 2511 Biological Anthropology CANL (3) AS ANT
CR: ANT 2511L
This is an overview of biological anthropology. It covers areas such as evolutionary theory and genetics (critical thinking and scientific process), human variation (diversity), and epidemiology (environment). It also has a historical component.

ANT 2511L Biological Anthropology Laboratory (1) AS ANT
CR: ANT 2511
This is a lab companion to an overview of biological anthropology. The students will be doing laboratories which are relevant to the class topics covered in the lecture hall in ANT 2511.

ANT 3005 The Anthropological Perspective (3) AS ANT
This class will examine the major dimensions of visual anthropology with an emphasis on the visual means of presenting anthropology to the discipline and general public. The course will focus on visual documentation and study of visual images.

ANT 3101 Archaeology CAGC HHCP (3) AS ANT
Focuses on critical thinking about the past, archaeological research. Methods, theory, web resources, and scientific analysis in the study of world prehistory, from human origins to modern times.

ANT 3610 Linguistic Anthropology GCPC (3) AS ANT
This course studies language comparatively in cultural and social contexts and examines the role of language in the interpretation of human experience.

ANT 4012 Fantastic Archaeology (3) AS ANT
Mysteries including the Lost Continent of Atlantis, Ancient Astronauts, Piltdown Man, Psychic Archaeology, Noah's Ark, and the Shroud of Turin will be examined, while emphasizing skills in critical thinking that have much wider practical applications.

ANT 4014 Anthropology of American Culture (3) AS ANT
PR: ANT 2410
This course examines American culture from an anthropological perspective. Various sources and
methods will be used in formulating our portraits including readings, films, fieldwork, and personal experiences.

ANT 4034 Theories of Culture (3) AS ANT
The major concepts that form the anthropological view of humanity are viewed in historical perspective. Basic ideas of the western philosophical tradition are analyzed from the Greeks to the 19th century when they became incorporated into the new discipline of anthropology. 20th century anthropological developments on these themes are considered.

ANT 4142 Old World Archaeology (3) AS ANT
PR: ANT 3101
The archaeology of Europe, Asia and Africa, from the earliest humans through the emergence of state-level societies in many parts of the Old World. The course will focus on comparative aspects of economic, social, political, and religious organization in the prehistoric Near East, Egypt, China, the Aegean, Europe and Africa.

ANT 4143 European Archaeology (3) AS ANT
PR: ANT 3101
The archaeology of Europe, from the first Paleolithic inhabitants to the fall of Roman civilization. The course will focus on ancient material culture while emphasizing social and economic questions such as the emergence of modern humans, the adoption of agriculture, the development of complex societies, and the rise of civilization.

ANT 4147 Environmental Archaeology (3) AS ANT
PR: ANT 3101
This course examines environmental constraints on ancient human societies, and how human activities have impacted the environment in the last several thousand years. Presentation of the methods used to reconstruct prehistoric environments will be followed by case studies from Florida, Central and South America, Easter Island, the Mediterranean and the Near East.

ANT 4153 North American Archaeology (3) AS ANT
PR: ANT 3101
An examination of the evidence regarding the human settlement of North America from its beginnings through the development of aboriginal culture to the period of European conquest. Emphasis on the comparative study of material culture at selected sites from all time periods. No field work is involved.

ANT 4158 Florida Archaeology (3) AS ANT
PR: ANT 3101
Culture history and culture process over 10,000 years from the time of the first people in Florida (Paleo-Indians) through the elaborate Weeden Island and Safety Harbor burial and temple mound cultures to the Spanish entrada and consequences of European conquest. Review of temporal and spatial relationships within the entire eastern U.S. and elsewhere. May be part of a summer (or other semester) field school, combined with Field Methods in Archaeology and Laboratory Methods in Archaeology.

ANT 4163 Mesoamerican Archaeology (3) AS ANT
PR: ANT 3101
The chronological sequence from its beginnings through Protopaleolithic development is described and analyzed. Cultures such as the Maya, Aztec, Mixtec, Zapotec, Olmec, and Toltec are included, with emphasis on the environmental setting and the relationship between cultural ecology and the growth of civilization.

ANT 4165 South American Archaeology (3) AS ANT
PR: ANT 3101
Describes and analyzes the sequence of cultural development in prehistoric South America. Cultures such as the Inca, Chaclac, Mochica, Wari, Chimú are included. Emphasis on the environmental setting and the relationship between cultural ecology and the growth of civilization.

ANT 4172 Historical Archaeology 6ACT (3) AS ANT
PR: ANT 3101
A survey and analysis of archaeology focused on the historic period. Laboratory research with data recovered from historic sites in addition to class work.

ANT 4180 Laboratory Methods in Archaeology (3) AS ANT
PR: ANT 3101
Data and materials recovered from archaeological survey and excavation are processed in the laboratory; includes artifact cleaning, cataloguing, identification, and analysis; soil flotation; reconstruction and conservation of artifacts, mapmaking, etc. May be offered as part of a summer (or other semester) field school. May be combined with Florida Archaeology and Field Methods in Archaeology.

ANT 4181 Museum Methods (3) AS ANT
PR: ANT 3101
Design, preparation and installation of exhibits in the Department of Anthropology Teaching Exhibit Gallery. Emphasis on theory, research, design, and construction. Discussion of museum-related issues such as administration and curation.

ANT 4183C Archaeological Science (4) AS ANT
PR: ANT 3101
This course focuses on the application of scientific methods of analysis to archaeological materials including bone, stone, pottery, and metal. Methods include absolute dating, remote sensing, optical and SEM microscopy, elemental and isotope analysis. Laboratory sections provide hands-on experience with a variety of archaeological materials and analytical methods.

ANT 4185 Ancient Diets (3) AS ANT
PR: ANT 3101
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ANT 4241 Anthropology of Religion WRIN 6ACT (3) AS ANT
PR: ANT 2410
The study of anthropological remains informing us about ancient diet, including fauna and flora, microscopic soil and ceramic residues, chemical analyses of human tissues, coprolites, gut contents, tooth wear patterns, visual/artistic and written information.

ANT 4250 Ancient Trade (3) AS ANT
PR: ANT 3101
This course focuses on long-distance trade and contact in ancient times, based on archaeological evidence and scientific studies, and how this informs us about sociopolitical systems and economic relations and how they vary over time and space.

ANT 4285 Oral History (3) AS ANT
PR: ANT 2410
A survey of the history, methods, and current applications of oral history research, primarily in the anthropological study of culture, but with reference to allied disciplines. Students will become familiar with oral history through intensive analysis of selected case studies as well as guided field projects.

ANT 4302 Gender in Cross-Cultural Perspective CPST HHCP (3) AS ANT
PR: an anthropology or a women's studies class
Examines roles of women, men, other genders and social, economic, and political aspects of sex and gender, from a biocultural, 4-field anthropological perspective, emphasizing non-Western societies and cross-cultural comparison in past and present.

ANT 4312 North American Indians (3) AS ANT
PR: ANT 2410
An examination of the evidence for the origin and antiquity of human beings in North America and of patterns of regional development until the period of contact with European colonists. Emphasis on varieties of ecological adaptation, social, political, and religious systems, enculturation and worldview, folklore and visual art.

ANT 4316 Ethnic Diversity in the United States (3) AS ANT
PR: ANT 2410
Special concerns include ethnic diversity in American society, historical and contemporary diversity in values, experiences, and lifestyles, and an examination of policies and problems affecting ethnic groups in the United States.

ANT 4323 Mexico and Central America (3) AS ANT
PR: ANT 2410
Focuses on the history, contemporary values and interpersonal relationships, and patterns of rural and urban life in Mesoamerica. Guatemala and Mexico are emphasized.

ANT 4340 The Caribbean 6ACT (3) AS ANT
PR: ANT 2410
Main themes include: the depopulation of the aboriginal population and the resettlement of the area via slavery, indenture, and migration; contemporary ethnic heterogeneity; economic problems of Third World microstates; development of a modern social and political consciousness. Religious diversity, music, the graphic arts, and the literature of the contemporary Caribbean will also be surveyed.

ANT 4390 Visual Anthropology (3) AS ANT
PR: ANT 2410
The use of photographic techniques for the cross-cultural recording and analysis of human activities. The study of ethnographic photography as both art and science, and the production of an anthropological study that expresses the goal of "visual literacy." Review and evaluation of the uses of visual techniques and the evidence they provide to the social scientist.

ANT 4401 Exploring Cross-Cultural Diversity CPST (3) AS ANT
PR: ANT 2410
This course will address a variety of challenging issues related to the general topic of cross-cultural diversity in contemporary American life.

ANT 4403 Environmental Anthropology (3) AS ANT
PR: ANT 2410
Explores cultural, social, political, and economic dimensions of contemporary environmental problems. Emphasis placed on the links between local-level environmental degradation and broader regional and global forces.

ANT 4432 The Individual and Culture 6ACT (3) AS ANT
PR: ANT 2410
The relationship between the individual and society is studied cross-culturally. Main themes include child-rearing practices, psychosomatic illness and curing. Discussion of theories and models of personality development with special reference to their applicability to the emerging field of cross-cultural mental health planning.

ANT 4442 Urban Life and Culture (3) AS ANT
PR: ANT 2410
The cross-cultural study of urbanization, urbanism and human problems associated with metropolitan environments. Emphasis on the ethnography of
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city life and its relationship to the practical
applications of urban research.

ANT 4462 Health, Illness, and Culture (3) AS ANT
PR: ANT 2410
The study of health and human behavior in cross-
cultural perspective. Main themes include: the
impact of disease on the development of human
culture; comparative studies of curing practices;
medical systems in their relationship to ideology.
Emphasis on understanding the role of medicine,
and the behavior of both practitioners and patients
in modern societies.

ANT 4465 The Anthropology of Food (3) AS ANT
PR: ANT 2000 or ANT 2410
Examines the ways that anthropologists write and
think about food, beginning with the basic
anthropological perspective on food, then looking
at food as a part of social rules and the life
passage.

ANT 4468 Biocultural Bases of Health and Disease
(3) AS ANT
PR: ANT 2511 or BSC 1005
Study of the socio-cultural and evolutionary bases
of health and disease, including such factors as
evolution, genetics, environment, and socio-
economics.

ANT 4472 Work and Migration in the Americas (3)
AS ANT
PR: ANT 2410
With a focus on the intersections of class, race,
gender, and citizenship, this course examines
experiences of work and migration in the Americas
to better understand the consequences of
globalization.

ANT 4475 Anthropology of Childhood (3) AS ANT
This course is an exploration of the emerging
subfield of anthropology and childhood, engaging
with literature on children, childhoods, and youth
around the globe. Students read a wide variety of
perspectives on anthropology and childhood.

ANT 4495 Methods in Cultural Research (3) AS ANT
The stages in the development and execution of
ethnological research are discussed and
practiced. Literature search, hypothesis formation,
selection of data collection techniques, elicitation
of information, data analysis, and report
presentation are stressed. Research design
models from the case literature are studied and
supervised research in the local community is
designed and carried out.

ANT 4516 Human Variation (3) AS ANT
PR: ANT 2511
An overview of evolution and biological variations
of human races. Anatomical, morphological, and
physiological patterns are surveyed
geographically. Cultural influences on racial
biology are explored.

ANT 4520C Forensic Anthropology (4) AS ANT
PR: ANT 2511
This course is designed to familiarize students
with forensic anthropology through lectures and
lab work. Students will learn human skeletal
biology for personal identification and cause of
death. This course is restricted to majors and is
not repeatable.

ANT 4525 Human Osteology and Osteometry (3)
AS ANT
PR: ANT 2511 and ANT 2511L
The identification of human skeletal remains,
including: instrumentation and procedures;
techniques for determining age at death, sex, and
ancestry; and measurement of the human
skeleton for comparative purposes.

ANT 4532 Anthropology of Infectious and
Contagious Diseases (3) AS ANT
PR: ANT 2410
CR: ANT 2511
This course is on communicable diseases and
their transmission, cures, and change with time
and technology. We will situate infectious and
contagious diseases in their historical and cultural
context by looking at the anthropology of these
ideas.

ANT 4536 Bioarchaeology (3) AS ANT
PR: ANT 2511 and ANT 2511L
The study of human skeletal remains from
archaeological sites, drawing on techniques from
archaeology, anatomy, biology, chemistry,
pathology, demography, and history to reconstruct
individual lives and collective population histories
across the globe.

ANT 4586 Prehistoric Human Evolution (3) AS ANT
PR: ANT 2511
A survey of the fossil record from the early
primates through the ascent of Homo sapiens
sapiens, focusing on the human lineage. Biosocial
patterns and cultures of the past are also covered.

ANT 4593 Evolution and Health (3) AS ANT
PR: ANT 2511
Using an evolutionary framework to develop
scientific hypotheses, this course inquires into the
origins and causes of illness. Students will use a
variety of critical methods to track down
evolutionary explanations for disease.

ANT 4620 Language and Culture 6ACT (3) AS ANT
PR: ANT 3610
Examines the relationships between language and
culture in cross-cultural perspective. Explores the
extent to which languages shape the world views
of their speakers. Emphasis on the nature and
degree of fit between linguistics and other cultural
systems of knowledge.

ANT 4701 Applied Anthropology (3) AS ANT
A review of approaches to applying the
anthropological perspective to contemporary
human problems. Discussion of the historical
development of applied anthropology, the ethics of
applied research, and careers in applied settings.
A study of the effects of physical activity on the body. Topics include acute and chronic adaptation of the cardiovascular, muscular, metabolic, hormonal, and energy systems to exercise. Open to non-majors.

APK 3120 Exercise Physiology (3) ED TAL
This course is designed to explore physiological adjustments and adaptations that occur as the result of exercise. The main focus will be on exercise-induced changes in the metabolic, cardiovascular, respiratory, neuromuscular, and endocrine systems.

APK 4134 Exercise Physiology II (3) MD ATH
A study of Exercise Physiology focusing on the adult. Includes specific populations such as the obese, heart patients, arthritics, elderly, and high performance athletes.

APK 4136 Exercise Prescription for Strength & Conditioning (3) ED TAL
PR: APK 3110
Techniques in conducting health-fitness test and exercise prescription for adults. Includes cardiovascular strength, flexibility, body composition, health risk testing, exercise prescribing, and monitoring. Justification

ARA 1120 Modern Arabic I (4) AS WLE
An intensive study of basic skills: pronunciation, listening comprehension, speaking and some composition.

ARA 1121 Modern Arabic II (4) AS WLE
PR: ARA 1120 or its equivalent
A continuation of ARA 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

ARA 2220 Modern Arabic III (4) AS WLE
PR: ARA 1121 or the equivalent
For language students who intend to attain basic proficiency.

ARA 2221 Modern Arabic IV (4) AS WLE
PR: ARA2220 or the equivalent.
Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

ARA 4905 Directed Study (1-5) AS WLE
Permits study options in Arabic not available in regularly scheduled curriculum at departmental discretion.

ARA 4930 Selected Topics (1-3) AS WLE
Course permits classes in Arabic not available in the regularly scheduled curriculum at departmental discretion.

ARC 2112L Architectural Freehand Drawing Methods (4) FA ARC
This course provides an introduction to basic freehand drawing with an emphasis on observational drawing, mapping, gesture, and drawing as a means of orientation. The student is introduced to a wide range of drawing methods, media and concepts.

ARC 2131C Introduction to Architectural Design and Graphics (4) FA ARC
## COURSE DESCRIPTIONS

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 2135C</td>
<td>Introduction to Architectural Design &amp; Graphics II (4) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>This course explores fundamental issues of space-making and perception of space, scale and habitation. In addition, this course builds on the skills and knowledge developed in the first introductory course through analysis and interpretation of specific works.</td>
</tr>
<tr>
<td>ARC 2180</td>
<td>Introduction to Digital Architecture (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>The Introduction to Digital Architecture course introduces students to various software utilized by Architects in the field such as, AutoCad, Sketch-up, StudioMax, Photoshop, etc.</td>
</tr>
<tr>
<td>ARC 2211</td>
<td>Introduction to Architecture CAHU HHCP (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>An introduction to the analysis and interpretation of the architecture and urban design of various cultures.</td>
</tr>
<tr>
<td>ARC 2701</td>
<td>Architectural History I (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Overview of the built environment from prehistory through the Middle Ages. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological and economic context.</td>
</tr>
<tr>
<td>ARC 2702</td>
<td>Architectural History II (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Overview of the built environment from the Middle Ages to the present. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological and economic context.</td>
</tr>
<tr>
<td>ARC 2931</td>
<td>Selected Topics (1-3) FA ARC</td>
<td>1-3</td>
<td>FA ARC</td>
<td>Selected topics will include architectural diagramming, freehand drawing, model making, photography, and computer graphics. Courses are intended for nonmajors and are repeatable.</td>
</tr>
<tr>
<td>ARC 4376</td>
<td>Architecture for Real Estate &amp; Development (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>The course introduces the basic processes necessary for large scale projects and developments. Numerous professions are explained from varying points of view to allow participants to better understand how buildings get built and land developed.</td>
</tr>
<tr>
<td>ARC 4541</td>
<td>Physics for Architects (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Physics for Architects is a study of physical concepts / problems applicable to current and future graduate architecture student, creating a foundation for technical issues of structures, environmental technology &amp; construction methods.</td>
</tr>
<tr>
<td>ARC 4757</td>
<td>Made in Italy: Italian Design and Interdisciplinary Coherence WRIN 6ACT (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>This course explores Italian design as a way to understand the coherence among differing fields of study. By discovering shared cross-disciplinary themes found in Italian design, students will gain new insights which will enlighten their own studies.</td>
</tr>
<tr>
<td>ARC 4784</td>
<td>The City 6ACT (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>This course examines the history of the city, as both idea and reality, with a particular focus on Western cities, and the 20th century. The course is open to undergraduates and students in the Graduate Architecture Program.</td>
</tr>
<tr>
<td>ARC 4884</td>
<td>Sustainable Neighborhood Development (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>This course will focus on understanding and evaluating sustainable neighborhood development strategies, using multiple concepts, practices and approaches.</td>
</tr>
<tr>
<td>ARC 4931</td>
<td>Selected Topics in Architecture and Community Design (1-3) FA ARC</td>
<td>1-3</td>
<td>FA ARC</td>
<td>Variable topics will be offered for pre-professional studies for students in the Liberal Studies Major/ALA Degree Program and as electives for other undergraduates.</td>
</tr>
<tr>
<td>ARC 5175</td>
<td>Computer Technology (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Introduction to the application of computer technology in current architectural practice. The exploration of available software, programs, and computer services for word processing, information handling, specification writing, feasibility analysis, cost estimating, economic performance and life cycle cost analysis, project management (network programming and analysis), computer graphics, computer aided design and drafting.</td>
</tr>
<tr>
<td>ARC 5216</td>
<td>The Building Arts (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Introduction to the man-made environment. The study and profession of architecture. The various facets of the process of shaping the built environment as it manifests itself in the different roles and specialization of the experts involved the process, and in the various academic courses that prepare the architect for practice.</td>
</tr>
<tr>
<td>ARC 5256</td>
<td>Design Theory (3) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>Survey of major schools of thought in design theory, methods of design and problem-solving, and design research. The nature of the design activity and its recurring difficulties. The nature and different types of problems. Traditional approaches to problem-solving and design in architecture; recent systematic as well as intuitive approaches to problem-solving based on developments in other fields. Scientific method; the systems approach and design.</td>
</tr>
<tr>
<td>ARC 5361</td>
<td>Core Design I (9) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td>First of two semester Design Fundamentals/Design Graphics sequence focusing on design abstractions and analysis of the factors influencing conceptual design. Emphasis is placed on ordering principles, pattern recognition and utilization, and figure-ground relationships. Development of craftsmanship, drawing as a means to design, and perceptual acuity are stressed.</td>
</tr>
<tr>
<td>ARC 5362</td>
<td>Core Design II (9) FA ARC</td>
<td>3</td>
<td>FA ARC</td>
<td></td>
</tr>
</tbody>
</table>
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PR: ARC 5361
Second of a two semester Design Fundamentals/Design Graphics sequence focusing on synthesis of design concepts and application of ordering principles in architectural design. Emphasis is placed on developing an understanding and awareness of architectural elements and compositions. Students examine the work of significant architects and use it as a basis for design exploration. Graphic documentation, diagramming, and model studies are stressed.

ARC 5363 Core Design III (6) FA ARC
PR: ARC 5362, ARC 5467, ARC 5587, ARC 5731 CR: ARC 5689
Study of the various phases of the building delivery and design process, and of different approaches to ordering that process in a systematic fashion. The student will use one such systematic approach in the investigation and development of design solutions for a project of moderate scale and complexity. Studies of built form ordering principles, mass/void relationships, scale and proportion, color, texture, contextual relationships, meaning/imagery, and building technology (awareness of structural organization, services networks, construction processes and materials). Aspects of human behavior as design determinants.

ARC 5364 Advanced Design A (6) FA ARC
PR: ARC 5363.
CPR: ARC 5588, ARC 5467
Application of orderly design processes to building projects of moderate complexity and scale. Continued investigation of the relationship between human behavior and the environment. Analysis and integration of site relationships into the development of design solutions. Legal aspects of zoning, building codes, and regulations regarding access for accessibility, fire escape, etc.

ARC 5365 Advanced Design B (6) FA ARC
PR: ARC 5363
CPR: ARC 5588, ARC 5467.
Investigation of the interaction between user requirements, environmental determinants, site and urban context conditions, technological factors, and design intentions in the development of design solutions for projects of medium scale and complexity. The analysis, design, and coordination of the various resulting systems, including structural, circulation, service networks, space zoning and use, environmental control systems at the interface between interior and exterior of a building. Representation of these relationships and systems in diagrams and models, and their manifestation in design and construction details.

ARC 5366 Advanced Design C (6) FA ARC
PR: ARC 5363
CPR: ARC 5588, ARC 5467.
Design of multi-purpose buildings of medium to large scale and complexity. Issues of community and neighborhood design as they relate to the design of buildings. Restoration and adaptive re-use of existing historic buildings. Focus on thinking through as well as documenting the complete building system and process.

ARC 5467 Materials and Methods of Construction (3) FA ARC
PR: ARC 5470
Overview of properties of primary construction materials and systems that make up building structures and enclosures. Emphasis on elements and assemblies relative to various climates, technologies, costs, building codes, and craftsmanship.

ARC 5470 Introduction to Technology (3) FA ARC
Introduction to architectural technology, including structures, materials and methods of construction, and environmental controls. Overview of building systems and components and their integration into architectural design projects.

ARC 5587 Structures I (3) FA ARC
PR: Calculus, Physics, and ARC 5470
Review of static and mechanical principles of materials. Analysis and evaluation for appropriate selection of structural systems and elements. Analysis and design of timber and steel structures, based on moment, shear, and deflection.
Fundamentals of wind and seismic design as they apply to wood and steel construction. Truss analysis, beam and column behavior.

ARC 5588 Structures II (3) FA ARC
PR: ARC 5587
Introduction to the concepts and theories of structural analysis and design of reinforced concrete systems and elements, including practical application in building construction. Prestressing, post-tensioning, hybrid assemblies. Fundamentals of wind and seismic design. Formwork, placement, and assembly techniques.

ARC 5689 Environmental Technology (3) FA ARC
PR: ARC 5467 and ARC 5470
Comprehensive overview of mechanical systems for buildings including: water and waste: fire protection and suppression; heating, cooling and controls; electric power distribution and illumination; communications; transportation systems, and acoustics.

ARC 5731 Architectural History I (3) FA ARC
Overview of the built environment from prehistory through the Middle Ages. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological and economic context. Varieties of methodological approaches to the analysis of historical architecture. The focus will be on the built environment of Europe and the Mediterranean basin.

ARC 5732 Architectural History II (3) FA ARC
Overview of the built environment from the Renaissance to the present. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological, and economic
context. Study of various methodological approaches to the analysis of historic architecture, and development of student’s own approach. Emphasis will be on the built environment of Europe and America.

ARC 5789 Modern Architecture History (3) FA ARC
Exploration of the philosophic, economic, aesthetic, social, historical and moral imperatives used by modern architects and historians in their attempt to design the appropriate physical environment for a new social order. The course will investigate the writings and works of the proponents of the modern style of architecture and study the “New Architecture” as defined by those who broke tradition and expressed the new era using modern construction materials and techniques.

ARC 5793 History Abroad (3) FA ARC
Summer study abroad. Location and description varies from year to year.

ARC 5794 Florida Architectural History (3) FA ARC
An examination of the environmental, sociological, technological, political, economic, cultural, and other factors that influenced the discovery, growth, and urbanization of Florida as manifested by its architecture.

ARC 5920 Architectural Design Studio Abroad (5) FA ARC
Summer study abroad. Location and description varies from year to year.

ARC 5931 Special Studies in Architecture (1-5) FA ARC
Variable titles offered on topics of special interest.

ARE 4341 Art Teaching Strategies II (3) FA ART
Media and the learning process will be explored through photographic arts, cinematography and video systems. Teaching strategies and media criticism for application at elementary and secondary levels.

ARH 2050 History of Visual Arts I CAHU HHCP (3) FA ART
Survey of World Art to AD 1300. Introduction to problems of analyzing and interpreting the art of various cultures without making the Western perspective a privileged one.

ARH 2051 History of Visual Arts II CAHU HHCP (3) FA ART
Survey of World Art since 1300. Introduction to problems of analyzing and interpreting the art of various cultures without making the Western perspective a privileged one.

ARH 3001 Introduction To Art CAFA HHCP (3) FA ART
This online course investigates the histories of art, asking a range of questions about periods, cultures, styles of art making. We explore the experience of viewing art, inquiring into its many forms and definitions, historically and in the present.

ARH 4115 Ancient Egyptian and Near Eastern Art (3) FA ART
A study of the art and cultures of ancient Egypt and the Near East, from the prehistoric period through the conquests of Alexander the Great.

ARH 4130 Greek Art (3) FA ART
A comprehensive study of ancient Greek sculpture, painting, architecture, and other artistic media from the Bronze Age through the Hellenistic period.

ARH 4151 Roman Art (3) FA ART
A comprehensive study of Roman sculpture, painting, architecture, and other artistic media from the founding of Rome through the reign of Constantine.

ARH 4170 Greek and Roman Art (3) FA ART
A comprehensive study of Aegean, Mycenaean, Etruscan, Greek and Roman painting, sculpture, and architecture.

ARH 4200 Medieval Art (3) FA ART
A comprehensive study of early Christian, Byzantine and Medieval painting, sculpture, architecture and manuscript illumination.

ARH 4301 Renaissance Art (3) FA ART
A comprehensive study of Renaissance and Mannerist painting, sculpture and architecture in Italy and Northern Europe.

ARH 4310 Early Italian Renaissance (3) FA ART
PR: ARH 2050 or ARH 2051
History of the visual arts in Italy from ca. 1220 to 1493, in the era commonly called the early Renaissance.

ARH 4312 Late Italian Renaissance (3) FA ART
PR: ARH 2050 or ARH 2051
This course focuses on the visual arts of Italy of the later Renaissance, from c. 1490 to 1576, with some reference to the broader context of art in the rest of Europe and the world.

ARH 4318 Venetian Art (3) FA ART
Major monuments of Venetian art are examined to elucidate the importance of Venice as the crossroads of cultural exchange between Islam, Byzantium, and the West, and the importance of Venetian art to the history of art and art criticism.

ARH 4333 Northern Renaissance Art (3) FA ART
PR: ARH 2050 or ARH 2051
Introduction to the history of Northern Renaissance Art, that is, art from northern Europe, esp. the Netherlands, Germany and France, from the late Middle Ages to the early modern era (14th through 16th centuries).

ARH 4350 Baroque and Rococo Art (3) FA ART
A comprehensive study of the painting, sculpture and architecture in France, Italy, Spain and the Netherlands in the seventeenth and early eighteenth centuries.

ARH 4430 Nineteenth Century Art (3) FA ART
A comprehensive study of nineteenth century painting, sculpture and architecture in America and Europe. Gender/multicultural issues and
methodologies in 19th century art are emphasized.

**ARH 4450 Twentieth Century Art (3) FA ART**
A comprehensive study of painting, sculpture and architecture from Cezanne to the present in Europe and the United States. Required of all art majors.

**ARH 4455 Modern Political Iconography (3) FA ART**
The course explores art in which political themes are considered to be the source and determinant of aesthetic decisions. The dominant iconographic theme is the iconography of revolution, rebellion, and other forms of political struggle in 20th Century art and film.

**ARH 4475C Contemporary Issues in Art (3) FA ART**
PR: ARH 4450
A study of the principles and techniques of educational measurement as applied to the teaching of physical education; study of the functions and techniques of measurement in the evaluation of student progress toward the objectives of physical education.

**ARH 4520 African Art (3) FA ART**
A combination of survey, comparative study and in-depth analysis of African sculpture, mainly from West and Central Africa. Emphasis on diversity of forms and contexts, functions, symbolism and meanings.

**ARH 4530 Asian Art (3) FA ART**
An introduction to concepts of the arts of China, Japan and other Far Eastern countries.

**ARH 4557 Chinese Art (3) FA ART**
Chinese Art proceeds chronologically, from the Neolithic era up to the contemporary art world. The course considers cultural, linguistic, technical, philosophic, political and religious influences on the art works produced by this ancient society.

**ARH 4710 History of Photography WRIN HHCP 6ACT (3) FA ART**
PR: ARH 2051
Comprehensive overview of the history of photography from its inception to the present day with an emphasis on the relationship of photography to the visual arts and popular culture.

**ARH 4721C History of Printmaking 6ACT (3) FA ART**
The history of Western printmaking from the Middle Ages to contemporary times, with an emphasis on artmaking technology and research, cultural perspectives and theoretical/critical analytical capabilities. The course is open to majors and non-majors. It is not repeatable for credit.

**ARH 4744 Selected Topics in the History of Film (3) FA ART**
In-depth investigation of a selected period, development, or school in the history of film as art.

**ARH 4800 Critical Studies in Art History 6ACT (3) FA ART**
PR: Two advanced Art Histories
Specialized intensive studies in art history. Specific subject matter varies. To be announced at each course offering.

**ARH 4890 Paris Art History (3) FA ART**
PR: Minimum 8 hours of art history at the undergraduate level or equivalent.
This course will explore issues central to the history and criticism of art through the rich visual culture of Paris. Themes will include art and national identity, orientalism, the avant-garde and the role of the museum in the evolution of modern art.

**ARH 4930 Art History: Selected Topics (1-3) FA ART**
Lecture/discussion course designed to offer areas of expertise of visiting scholars or specific interests of resident faculty.

**ARH 5813 Methods of Art History (4) FA ART**
This course introduces students to various methods which art historians have used to analyze the form and content of individual works of art, and to various modes of historical explanation.

**ARH 5836 Collection and Exhibition Management (3) FA ART**
This class will introduce students to the basic principles of collections care and management and to the intellectual and practical tasks of preparing an exhibition. Sessions will include art handling, registration and condition reporting, preparing works of art for transit, environmental standards for collections storage and exhibition, and the professional responsibilities of the curator.

**ART 2201C Concepts and Practices I CAFA (3) FA ART**
Introduce students to diverse art studio practices and concepts where topics include forms of communication, sourcing inspiration, and critical theory. Studio projects are augmented by lecture, discussion, reading, writing and critical analysis.

**ART 2203C Concepts and Practices II CAFA (3) FA ART**
PR: ART 2201C
Continuation of ART 2201 building on diverse art studio practice and concepts including crafting an artistic self, measuring success, and examining the artists role. Art projects are augmented by lecture, discussion, reading, writing and critiques.

**ART 2301C Beginning Drawing (3) FA ART**
Projects exploring the methods, media, and concepts of drawing.

**ART 2400C Beginning Printmaking (3) FA ART**
This course is designed as an introduction to the medium of printmaking. It concentrates on the technical production of various print media including: intaglio, relief, monoprint and serigraphy (screen printing).

**ART 2500C Beginning Painting (3) FA ART**
Projects in painting with emphasis on the exploration of methods and media and the development of individual concepts.

**ART 2701C Beginning Sculpture (3) FA ART**
Projects in sculpture with emphasis on contemporary theory and issues, the development of individual concepts and the exploration of materials, tools and processes.

**ART 2750C Beginning Ceramics (3) FA ART**
An introduction to the use of ceramic materials as a means of self expression and critical exploration.

**ART 2930C Selected Topics in Art (1) FA**
Course providing focused exploration of content.

**ART 3310C Intermediate Drawing (3) FA ART**
An extension of the skills and concepts introduced in Beginning Drawing with an emphasis on individual experimentation and the development of advanced critical and technical skills in the discipline. Repeatable up to 15 hours.

**ART 3380C Selected Topics in Drawing (3) FA**
Selected Topics in Drawing is an intermediate course providing focused exploration of content specific to the discipline. It furthers the development of skills and critical discourse in the field. Majors only. Repeatable up to 15 hours.

**ART 3403C Intermediate Printmaking (3) FA**
Projects in printmaking using the computer as a design interface between electronic and traditional printmaking processes. Repeatable up to 9 hours.

**ART 3461C Selected Topics in Printmaking (3) FA ART**
Selected Topics in Printmaking is an intermediate course providing focused exploration of content specific to the discipline. It furthers the development of skills and critical discourse in the field. Majors only. Repeatable up to 15 hours.

**ART 3530C Intermediate Painting (3) FA ART**
PR: ART 2201C, ART 2203C, ART 2301C, ART 2500C, ART 3310C, ARH 2050, ARH 2051
An extension of the skills and concepts introduced in Beginning Painting with an emphasis on individual experimentation and the development of advanced critical and technical skills in the discipline. Repeatable up to 15 hours.

**ART 3610C Digital Modeling (3) FA ART**

**ART 3612C Beginning Video, Animation and Digital Arts (3) FA ART**
An introductory exploration of the use of video, animation, and digital art as media for making contemporary art. Emphasis is on all levels of production, concept development, and the history and theory of media, moving image, sound, and animation.

**ART 3616C Computer Animation (3) FA ART**
PR: ART 3612C.
Hands-on exploration of issues, principles, and practices involved in the creation of 2D animation. Traditional methods are combined with animation and imaging software. Focus is on individual creative growth.

**ART 3635S Selected Topics in Video, Animation & Digital Arts (3) FA ART**
Selected Topics in VADA is an intermediate course providing focused exploration on content specific to the discipline. It furthers the development of skills and critical discourse in the field. Majors only. Repeatable up to 15 hours.

**ART 3640 The Art of Video Games (3) FA ART**
The Art of Video Games investigates the emerging role that fine art plays within the video game medium. Students research connections between contemporary art practice and the commercial video game industry and create their own video game.

**ART 3709C Intermediate Sculpture (3) FA ART**
COURSE DESCRIPTIONS

This course expands upon the principles and processes introduced in Beginning Sculpture, developing a higher level of technical competence and critical sophistication. Repeatable up to 15 hours.

ART 3712C Multiples, Molds, and Bronzecasting (3) FA ART
PR: ART 2701C and ART 3704C
Continued studies and projects in sculpture with an emphasis on the nature of multiples explored through advanced mold making and bronzecasting. This course may not be repeated for credit. The conceptual implications of the multiple will be taught through reading, lecture, discussion and demonstration.

ART 3735 Selected Topics in Sculpture (3) FA ART
PR: ART 2203C, ARH 2050, ARH 2051, ART 2301C, ART 3310C, ART 2701C, ART 3704C. Selected Topics in Sculpture is an intermediate course providing focused exploration of content specific to the discipline. It furthers the development of skills and critical discourse in the field. Repeatable up to 15 hours.

ART 3761C Intermediate Ceramics (3) FA ART

ART 3781C Selected Topics in Ceramics (3) FA ART
PR: ART 2203C, ARH 2050, ARH 2051, ART 2301C, ART 3310C, ART 2750C, ART 3761C. Selected Topics in Ceramics is an intermediate course providing focused exploration of content specific to the discipline. It furthers the development of skills and critical discourse in the field. Majors only. Repeatable up to 15 hours.

ART 3843C Site, Installation, and Performance (3) FA ART
PR: ART 2701C and ART 3704C. Continued studies and projects in sculpture with an emphasis on site-specific sculpture, installation and performance. A critical and cultural awareness of contemporary issues and media in sculpture will be developed through studio projects assigned readings, discussions, critiques and demonstrations. The course may not be repeated for credit.

ART 3939 RealWorld (3) FA ART
PR: ART 3618
Offers studio students the opportunity to analyze their experiences as art majors and explore options available to visual artists upon completion of their degree.

ART 4320C Advanced Drawing (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C
Continued projects in drawing.

ART 4402C Advanced Printmaking (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C
This course is designed as an advanced printmaking studio and emphasizes content and meaning in visual imagery. The student is encouraged to work in a specific printmaking medium (intaglio, relief, lithography or screen printing) and develop a cohesive series of images.

ART 4520C Advanced Painting (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C, Continued projects in painting.

ART 4614C Advanced Video, Animation and Digital Arts (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C
Advanced exploration of issues and practices in the creation of experimental computer art. Continues an interdisciplinary approach to video, animation, 3D modeling and electronic arts with a focus on individual and group projects.

ART 4634C Visual Design for the Internet (3) FA ART
This upper level course builds upon the concepts students encountered in the introductory level graphic design courses and focuses upon web content creation and animation techniques.

ART 4642 Digital Fabrications for Artists (3) FA ART
Study and use of digital imaging and modeling software (CAD, CAM) for creation of physical artworks using CNC (digital fabrications) equipment; Grounded in contemporary and historical practices.

ART 4710C Advanced Sculpture (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C Continued problems in sculpture. Repeatable.

ART 4782C Advanced Ceramics (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C Continued problems in ceramics.

ART 4806 Theme Studio (3) FA ART
PR: All preparation courses plus course in Studio Workshop I.

ART 4814 Paris Art Studio (3) FA ART
PR: ART 2201C or equivalent. This course will explore contemporary and historic Paris as a subject and source for artmaking, drawing upon a range of concepts and strategies that emphasize imaginative encounters with its space, streets, museums, architecture and people.

ART 4900 Directed Reading (1-4) FA ART
A course of reading and study in an area of special concern governed by student demand, instructor interest and/or department requirements. Registration is by contract only. Repeatable.

ART 4905 Directed Study (1-4) FA ART
Independent studies in the various areas of Visual Arts. Course of study and credits must be assigned prior to registration. Repeatable.

ART 4925 Media Workshop: Design Production (3) FA ART
This upper level technology course will develop in-depth understanding of graphic software and print production techniques. Students will review software programs, file preparation requirements, and print production standards.

ART 4930 Selected Topics In Art (1-3) FA ART
The content of this course will be determined by student demand and instructor interest. Open University offerings under this number may not be counted for degree credit for art majors. Repeatable.

ART 4940 Extended Studies (1-4) FA ART
Extended Studies requires students to engage in art-related activities that expand upon their traditional academic experience. It is by contract and may involve internship and/or foreign studies. The course is restricted to majors. Not repeatable. Repeatable.

ART 4970C Senior Thesis (4) FA ART
The creation of a coherent body of advanced level artwork that is supported by a written document describing processes working procedures, research, context and content of the artwork itself. The course is restricted to majors. Not repeatable. Repeatable.

ART 4990C Intaglio (4) FA ART
Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media. Repeatable.

ART 5390C Drawing (4) FA ART
PR: ART 4320C
Advanced problems in various drawing techniques. Emphasis on individual creative expression. Repeatable.

ART 5448C Intaglio (4) FA ART
PR: ART 4320C
Advanced problems in various drawing techniques. Emphasis on individual creative expression. Repeatable.

ART 5580C Painting (4) FA ART
Research in painting

ART 5740C Sculpture (4) FA ART
PR: ART 2701C
Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. Repeatable.

ART 5790C Ceramics (4) FA ART
PR: ART 2750C
Advanced problems in the various ceramic techniques, including throwing and glaze calculation. Repeatable.

ART 5910 Research (1-4) FA ART
Repeatable.

ASH 2270 Southeast Asian History CAHU HHCP
(3) AS HTY
This course examines the origins and development of Southeast Asian history over the past two millennia. Southeast Asia is comprised of Burma, Thailand, Laos, Cambodia, Vietnam, Malaysia, Singapore, Brunei, Indonesia, the Philippines, and East Timor.

ASH 3404 Modern China (3) AS HTY
Political, economic, and social history of China from the time of the first major Western contacts (17th-18th Centuries) through the consolidation of socialism in the late 1950's, and the Great Leap Forward.

ASL 2140C Basic American Sign Language (4) BC CSD
Introduction to American Sign Language (ASL) as used in the deaf community. General discussion of ASL structure and introduction to various manual communication systems and philosophies. Emphasis on building a basic vocabulary. One hour of laboratory course work is included. Open to all majors.

ASL 2150C Intermediate American Sign Language (4) BC CSD
PR: ASL 2140C
A continuation of the basic course which expands the student's signing skills and introduces American Sign Language (ASL) idioms. Provides a greater opportunity for skill development in ASL structure and idiomatic usage. One hour of laboratory course work is included.

ASL 3324 Advanced ASL Discourse (3) BC CSD
PR: ASL 2140C, ASL 2150C, ASL 4161C, ASL 4201C, ASL 4301C
This course will focus solely on developing language skills within ASL, which are preliminary steps for interpretation, and will also address the development of student's ability to segment information and perform various cognitive tasks intralingually.

ASL 3514 Deaf Culture WRIN 6ACT GCPC (3) BC CSD
Introduction to Deaf culture and Deaf community as a linguistic and cultural group. Students will study cultural norms, values, and rules behavior of the Deaf community, and minority dynamics and cross-cultural interactions.

ASL 4161C Advanced American Sign Language (3) BC CSD
PR: ASL 2140C
A continuation of the study of American Sign Language (ASL) at the advanced skill level. Added emphasis on idioms, body language, and facial expression as an integral part of ASL. An hour of laboratory course work is included.

ASL 4201C American Sign Language 4 (3) BC CSD
PR: ASL 4161C
This course is a continuation of the study of American Sign Language (ASL) at the highly advanced level. It provides added emphasis on skill development of the language, including storytelling and poetry. One-hour laboratory course work is included.

ASL 4301C Structure of Sign Language (3) BC CSD
PR: ASL 4161C
This course is a basic introduction of semiotic and linguistic consideration of American Sign Language (ASL). It includes aspects of phonology, morphology, syntax, semantics, and discourse of ASL. A one-hour laboratory is incorporated into the coursework.

ASL 4405 Sign Language Codes (3) BC CSD
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

A review of the sign systems (SEE I, SEE II, LOVE, and Signed English) used to code messages through the use of sign. The student will have the opportunity to practice one of the sign systems.

ASL 4435 Fundamentals of Fingerspelling (2) BC CSD
A concentrated study of technique in fingerspelling emphasizing clarity and rhythm in expression as well as receptive understanding.

ASL 4700 ASL Literature (3) BC CSD
This course will explore the role of ASL literature (such as visual-spatial stories, plays, poetry, etc.) used and created by culturally Deaf individuals so as to understand its purpose and importance within the Deaf community.

ASN 3012 Japan Today (3) AS GIA
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

ASN 3014 China Today (3) AS GIA
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

ASN 3030 The Middle East (3) AS GIA
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

ASN 3201 East Asian Cinema (3) AS WLE
This survey course focuses primarily on recent masterpieces from Japan, mainland China, Hong Kong, Taiwan, and South Korea. We will look at directors, studios, genres, and film movements that leave a lasting mark on film history.

ASN 4414 Introduction to East Asian Cultures (3) AS WLE
This course introduces major texts that have contributed to the cultural foundations of Chinese, Japanese and Korean civilizations. We will examine the transformation of East Asian civilizations and their critical importance in the contemporary world.

AST 2002 Descriptive Astronomy CANP (3) AS PHY
An introductory and overview of astronomy course. It is designed to introduce a broad range of topics in astronomy that will be discussed in greater detail in more advanced classes.

AST 2004 Stellar Astronomy and Cosmology CANP (3) AS PHY
AST2004 is an introduction and overview of the Stellar astronomy and Cosmology. It is designed to complement AST2003 to give a comprehensive overview of the science of Astronomy.

AST 3033 Contemporary Thinking in Astronomy (3) AS PHY
Seminar designed to assist the layman, with no scientific background, in comprehending contemporary developments in Astronomy. Necessary background material is provided by the instructor and a text. Topics covered in recent years include the space program, pulsars, x-ray astronomy, black holes, extra-terrestrial life, interacting galaxies, cosmology.

AST 3044 Archaeoastronomy (3) AS PHY
Astronomical concepts and observational techniques used by prehistoric/ancient peoples for detecting change of seasons, constructing calendars, predicting eclipses, etc. Particular attention is given to Stonehenge, and to works of N.A. Indians, the Maya and Aztecs, and the Egyptians. Lec.-Lab.

AST 3652 Navigation (3) AS PHY
PR: Some knowledge of geometry, algebra, and trigonometry.
Timekeeping, use of sextant, constellations, celestial navigation with minimum equipment, spherical astronomy.

AST 3930 Selected Topics in Astronomy (1-3) AS PHY
Course content will depend upon the interest of the faculty member and student demand.

ATR 1000 Introduction to Athletic Training (3) MD ATH
The purpose of this course is to familiarize students with the field of athletic training and the preparation necessary to become an athletic trainer.

ATR 2010C Care and Prevention of Physical Injuries (3) ED TAL
Principles and techniques of conditioning athletes for competition; prevention and care of injuries in physical education and athletic activities.

ATR 3102C Athletic Training Techniques (3) MD ATH
Overview course including basic components of the athletic training profession including the prevention, recognition and evaluation and immediate care of athletic injuries. Medical terminology, emergency procedures, and taping procedures will be covered.

ATR 3123 Foundations of Athletic Training (3) MD ATH
PR: ATR 3213C, ATR 3102C.
Foundational topics in athletic training including anatomy review as it relates to diagnosis and treatment of athletic injuries. Other topic areas to include pharmacology, environmental issues and other current topics in athletic training. AT Majors only.

ATR 3132 Kinesiology and Pathomechanics (3) MD ATH
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
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<tbody>
<tr>
<td>ATR 3202C</td>
<td>Measurement and Evaluation in Athletic Training</td>
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<td>This course is an introduction to the study and practice of measurement and</td>
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<td>(3) MD ATH</td>
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<td>evaluation techniques used in the assessment and rehabilitation of orthopaedic</td>
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<td>injuries. AT majors only. Credit not repeatable.</td>
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<tr>
<td>ATR 3212C</td>
<td>Upper Extremity Assessment (3) MD ATH</td>
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<td>PR: ATR 3212C and ATR 3213C</td>
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<td>The study and practice of techniques used when assessing athletic injuries to</td>
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<td>the upper extremity, head and spine.</td>
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<tr>
<td>ATR 3213C</td>
<td>Lower Extremity Assessment (3) MD ATH</td>
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<td>PR: ATR 3212C</td>
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<td>The study and practice of techniques used when assessing injuries to the lower</td>
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<td>extremity, hip, pelvis, low back and gait.</td>
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<tr>
<td>ATR 3512</td>
<td>Athletic Training Administration and Policy (3) MD ATH</td>
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<td>PR: ATR 3822L</td>
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<td>Analysis and application of organizational skills and administrative</td>
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<td>structure of the athletic training profession, including current theory about</td>
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<td>budget management, medical record keeping, drug testing, facility design and</td>
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<td>maintenance, legal aspects of sports medicine, athletic physical</td>
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<td>examinations, medical ethics, current educational concepts, and</td>
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<td>administrative policy.</td>
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<tr>
<td>ATR 3513</td>
<td>Documentation in Athletic Training (1) MD ATH</td>
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<td>PR: PET 3202</td>
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<td></td>
<td>Designed to prepare athletic training students with an introduction to the</td>
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<td>foundation of appropriate terminology, documentation, and communication</td>
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<td>methods as they relate to athletic training and sports medicine. Majors only.</td>
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<tr>
<td>ATR 3812L</td>
<td>Clinical Experience in Athletic Training I (3) MD ATH</td>
<td>PR: ATR 3822L</td>
<td>Performance of basic athletic training skills under the supervision of a</td>
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<td>clinical instructor at various sites. Students develop competence in</td>
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<td>introductory and mid-level athletic training skills. Weekly seminar also</td>
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<tr>
<td>ATR 3822L</td>
<td>Clinical Experience in Athletic Training II (3) MD ATH</td>
<td>PR: ATR 3102C</td>
<td>Performance of basic athletic training skills under the supervision of a</td>
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<td>clinical instructor at various sites. Students develop competence in</td>
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<td>introductory athletic training skills. A weekly seminar is also required.</td>
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<tr>
<td>ATR 4223</td>
<td>Advanced Athletic Training (3) MD ATH</td>
<td>PR: ATR 3212C and ATR 3213C</td>
<td>Advanced techniques in athletic training including orthopedic assessment,</td>
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<td>casting and bracing and imaging techniques.</td>
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<td>ATR 4302C</td>
<td>Therapeutic Modalities (3) MD ATH</td>
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<td>This course provides an introduction to the theoretical and practical</td>
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<td>applications of modalities for the prevention, management and rehabilitation</td>
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<td>of physically active individuals. Concepts pertaining to the use of</td>
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<td>pharmacology, thermotherapy, cryotherapy, electrical stimulation,</td>
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<td>hydrotherapy, fluidotherapy, ultrasound, biofeedback and manual techniques</td>
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<tr>
<td>ATR 4314C</td>
<td>Therapeutic Rehabilitation (3) MD ATH</td>
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<td>PR: ATR 3212C and ATR 3213C</td>
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<td></td>
<td>Advanced theory of pathology in injury, management of tissue and bone</td>
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<td>healing environments, disease, internal illness and injury and other</td>
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<td>general medical conditions. Issues related to radiology and pharmacology are</td>
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<td>also discussed.</td>
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<tr>
<td>ATR 4432</td>
<td>General Medical Conditions in the Athlete (3) MD ATH</td>
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<td>PR: ATR 3212C</td>
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<td>Advanced study, writing, reflection and discussion of current athletic</td>
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<td>training issues. Emphasis is on professional preparation, scientific</td>
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<td>inquiry, credentialing, governance, employment practices, ethics, and scope</td>
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<td>of practice issues.</td>
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<tr>
<td>ATR 4504</td>
<td>Seminar in Sports Medicine WRIN 6ACT (3) MD ATH</td>
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<td>PR: ATR 4432</td>
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<td>The advanced study, writing, reflection and discussion of current athletic</td>
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<td>training issues. Emphasis is on professional preparation, scientific</td>
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<td>inquiry, credentialing, governance, employment practices, ethics, and scope</td>
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<td>of practice issues.</td>
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<tr>
<td>ATR 4832L</td>
<td>Clinical Experience in Athletic Training III (3) MD ATH</td>
<td>PR: ATR 3822L</td>
<td>Performance of mid-level athletic training skills under the supervision of</td>
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<td>a clinical instructor at various sites. Students develop competence in</td>
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<td>mid-level and advanced athletic training skills. Weekly seminar also required.</td>
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<tr>
<td>ATR 4842L</td>
<td>Clinical Experience in Athletic Training IV (3) MD ATH</td>
<td>PR: ATR 4832L</td>
<td>Continuation of clinical experience utilizing new skills under the direction</td>
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<td>of an NATA certified/licensed athletic trainer accompanied by a one-hour</td>
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<td>seminar each week. This course provides students with the opportunity to</td>
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<td>develop competence in a variety of mid-level and advanced athletic training</td>
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<td>skills. Students may be assigned to a USF athletic team and/or one or more</td>
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<td>off-campus clinical affiliations. Students at this level will develop</td>
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<td></td>
<td>instruction skills by acting as peer-supervisors for level I, II and III</td>
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<tr>
<td>ATR 4902</td>
<td>Independent Study in Sports Medicine (1-3) MD ATH</td>
<td>S/U Only.</td>
<td>Specialized independent study determined by the student's needs and</td>
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<td>interests. Repeatable 1 time.</td>
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<tr>
<td>ATR 5105</td>
<td>Athletic Training (3) MD ATH</td>
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<td>PR: ATR 3212C</td>
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<td>This course provides an introduction to the theoretical and practical</td>
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<td>applications of modalities for the prevention, management and rehabilitation</td>
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<td>of physically active individuals. Concepts pertaining to the use of</td>
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<td>pharmacology, thermotherapy, cryotherapy, electrical stimulation,</td>
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<td>hydrotherapy, fluidotherapy, ultrasound, biofeedback and manual techniques</td>
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<td>will be emphasized.</td>
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<tr>
<td>ATR 5105C</td>
<td>Athletic Training Techniques (3) MD ATH</td>
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<td>PR: ATR 3212C</td>
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<td>This course provides an introduction to the theoretical and practical</td>
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<td>applications of modalities for the prevention, management and rehabilitation</td>
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<td>will be emphasized.</td>
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</tbody>
</table>
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

Overview course including basic components of the athletic training profession including the prevention, recognition and evaluation and immediate care of athletic injuries.

ATR 5125 Anatomical Basis of Clinical Practice in Sports Medicine (3) MD ATH
By way of laboratory prossection of cadavers, this class will provide an opportunity for students to gain an in-depth understanding of human anatomy. This course examines anatomy of the extremities, back, thorax, abdomen, pelvis and perineum.

ATR 5217C Physical Examination I (4) MD ATH
The study and practice of skills and techniques essential for the evaluation of orthopaedic injuries. Students will learn to formulate an impression of the injury/condition in order to provide the basis for an initial treatment plan and medical referral.

ATR 5218C Physical Examination II (4) MD ATH
The study and practice of skills and techniques essential for the evaluation of orthopaedic injuries. Students will learn to formulate an impression of the injury/condition in order to provide the basis for an initial treatment plan and medical referral.

ATR 5306C Therapeutic Interventions I (4) MD ATH
Theoretical and clinical bases for the use of therapeutic modalities, pharmacology in the rehabilitation setting, including basic physics, physiological effects, indications, contraindications, and applications of therapeutic modalities in rehab.

ATR 5307C Therapeutic Interventions II (4) MD ATH
Theory and application methods of comprehensive therapeutic treatment and rehabilitation programs for injuries commonly sustained by the physically active.

ATR 5308C Therapeutic Interventions III (1) MD ATH
This course will provide an overview of manual therapy techniques, including myofacial release, joint mobilization, and traction as they are incorporated into a therapeutic rehabilitation program.

ATR 5319 Rehabilitation Considerations for Children (3) MD ATH
Addresses the principles of rehabilitation for children. This course will entail advanced anatomical, physiological and psychological aspects of sports injury in the youth population.

ATR 5346C Health and Wellness Promotion Across the Lifespan I (3) MD ATH
Integrates physiological, psychological, and social understanding of humans in relationship to physical activity as a lifelong pursuit. Includes physical fitness, nutrition, stress reduction, socialization, and individual differences in human behavior.

ATR 5347C Health and Wellness Promotion Across the Lifespan II (1) MD ATH
Techniques in conducting health fitness tests and exercise prescription including cardiorespiratory fitness, flexibility, weight control and nutrition as it relates to a healthy lifestyle.

ATR 5348C Health and Wellness Promotion Across the Lifespan III (1) MD ATH
This course will introduce concepts of neuromuscular system training, specifically addressing sport specific strength training, exercise selection, and physiological needs analysis.

ATR 5435 Medical Conditions (3) MD ATH
Pathology, physical examination, referral and treatment related to non-orthopedic conditions in the active population. Specific diagnostic tests and physical examination procedures will also be addressed.

ATR 5508 Contemporary Issues in Athletic Training (3) MD ATH
Takes a unique look at the current issues facing the profession of athletic training. Historical perspectives, current implications, and futuristic opportunities and threats are discussed.

ATR 5515 Administration of Injury Prevention Programs (3) MD ATH
Discusses the development and implementation of injury prevention programs for youth sports. Issues such as research, budgeting, marketing, and measuring effectiveness are identified.

ATR 5534 Documentation in Athletic Training (1) MD ATH
CR: ATR 3202
Documentation in Athletic Training is designed to prepare athletic training students with an introduction to the foundation of appropriate terminology, documentation, and communication methods as they relate athletic training and sports medicine.

ATR 5605 Youth Injury Epidemiology (3) MD ATH
Key issues in epidemiology, injury etiology, risk factors related to both internal and external variables, and the efficacy and effectiveness of preventive measures in regard to youth sport injury will be analyzed and discussed.

ATR 5612 Evidence Based Medicine in Athletic Training (2) MD ATH
This class will introduce the concept of evidence-based medicine and provide the student with information on how evidence-based medicine can affect the clinical practice of athletic training and enhance the care given to patients.

ATR 5815 Clinical Experience in Athletic Training (3) MD ATH
Performance of basic athletic training skills under the supervision of a clinical instructor at various sites. Students develop competence in introductory athletic training skills. Focus on equipment intensive sports. A weekly seminar also required.

ATR 5825 Clinical Experience in Athletic Training - II (3) MD ATH
Performance of basic athletic training skills under the supervision of a clinical instructor at various sites. Students develop competence in introductory and mid-level athletic training skills. Weekly seminar is also required.

**BCH 3023L Basic Biochemistry Laboratory (2) AS CHM**
CPR: BCH 3053 with a minimum grade of C or BCH 4033 with a minimum grade of C
Practical work in determination and characterization of important biomolecules. Lec.-lab.

**BCH 3053 General Biochemistry (3) AS CHM**
PR: CHM 2210 and BSC 2302 with a minimum grade of C
This course is a one-semester, introductory course in Biochemistry. This course is open to all majors and strongly recommended for Biomedical Science majors. This course is not repeatable for credit.

**BCH 4033 Advanced Biochemistry I (3) AS CHM**
PR: CHM 2211 and BSC 2302
Introduction to the chemistry and intermediary metabolism of biologically important substances.

**BCH 4034 Advanced Biochemistry II (3) AS CHM**
PR: BCH 4033 with a minimum grade of C
An advanced undergraduate course emphasizing such topics as metabolic regulation, DNA and RNA structure and function, receptors, channels, antibodies, and contraction.

**BCH 5045 Biochemistry Core Course (3) AS CHM**
PR: Either CHM 2211, CHM 2211L, and CHM 3400 or CHM 4410
A one-semester survey course in biochemistry for graduate students in chemistry, biology, and other appropriate fields and for particularly well-qualified undergraduates.

**BCH 5105 Biochemistry Laboratory Rotations (1-3) AS CHM**
A course in which first year graduate students rotate through selected professor’s laboratories to learn techniques, become familiar with ongoing research in the Department and facilitate the selection of a mentor.

**BME 3032 Biomedical Transport Process (3) EN ECH**
PR: EGN 3343 with a minimum grade of C, EGN 3433 with a minimum grade of C or MAP 2302 with a minimum grade of C
Introduce principles of momentum, mass and heat transport. Mathematical modeling of transport in one dimension and obtain solutions for fluxes and profiles. To utilize them to obtain engineering quantities.

**BME 3053 Computer Programming for Biomedical Engineers (3) EN ECH**
PR: EGN 3433 with a minimum grade of C or MAP 2302 with a minimum grade of C
Basic programming skills in MATLAB. Use of computer methods to solve biomedical engineering problems. Solution of linear and nonlinear algebraic and differential equations that arise in biomedical engineering. Optimization methods.

**BME 3312 Molecular and Cellular Engineering (3) EN ECH**
PR: CHM 2210 with a minimum grade of C, CHM 2210L with a minimum grade of C
This course is designed to convey the basics of biological systems and the roles that engineers play in industrial biology to engineering students (primarily) and to students that are majoring in other sciences.

**BME 4056C Biomedical Engineering Lab I (2) EN ECH**
PR: BME 4503 with a minimum grade of C, BME 4508 with a minimum grade of C
Design, implementation and analysis of biomedical experiments, including biomechanics, tissue mechanics, fluid transport, cardiovascular hemodynamics and materials for artificial organs and implants.

**BME 4057C Biomedical Engineering Lab II (2) EN ECH**
PR: BME 4503 with a minimum grade of C, BME 4508 with a minimum grade of C
Design, implementation and analysis of biomedical experiments, including bio-signal data acquisition, processing and analysis, and medical image processing and interpretation.

**BME 4100 Biomedical Engineering (3) EN ECH**
CR: Calculus 1
CPR: Chemistry 1
An overview of biomedical engineering, including material and energy balances on human subjects, biomechanics, biomaterials, cellular and tissue engineering, biochemical imaging, neuroengineering, cardiovascular systems, engineering ethics and product dev.

**BME 4332 Cell and Tissue Engineering (3) EN EGR**
PR: EGN 3343 and EGN 3365 or EMA 4003
Engineering principles and molecular cell biology are applied to develop a fundamental understanding of property-function relationships in cells and tissues and exploit them in the rational design of tissue replacements.

**BME 4406 Engineering of Biological Systems (3) EN ECH**
PR: CHM 2210
This course is designed to convey the basics of biological systems and the roles that engineers play in industrial biology to engineering students (primarily) and to students that are majoring in other sciences. Not repeatable for credit. For majors and non-majors.

**BME 4409 Engineering Physiology (3) EN ECH**
PR: EGN 3433, PHY 2048, PHY 2409, ECH 4846, or equivalents
General physiology of nerve, muscle, heart, and lung tissue, along with quantitative models of physiological processes at cell, tissue, and/or system level.
BME 4440 Introduction to Bioastronautics (3) EN EGR
PR: EGN 3343
This course will discuss the space environment, impacts of microgravity on human physiology, countermeasures, human factors in spacesuit and spacecraft design, astronaut training, life support systems, mission planning, and private space flight.

BME 4503 Biomedical Instrumentation (3) EN ECH
CPR: EGN 3373 with a minimum grade of C
Engineering and medical bases of application, measurement and processing of signals to and from living systems. Biomedical transducers for measurements of movement, biopotentials, pressure, flow, concentrations, and temperature are discussed.

BME 4508 Biomedical Signals and Systems Analysis (3) EN ECH
PR: EGN 3433 with a minimum grade of C or MAP 2302 with a minimum grade of C
CPR: EGN 3373 with a minimum grade of C
Application of analytical methods and computational modelling to the analysis of biochemical, bioelectrical, and biomechanical processes.

BME 4571 Nanomedicine (3) EN ECH
This course will provide a basic knowledge of the principles, technology and applications of nanotechnology in medicine with special emphasis on recombinant DNA technology, protein engineering, drug delivery, biomaterials, MEMs & tissue engineering.

BME 4882 Biomedical Engineering Design I (3) EN ECH
CPR: BME 4056C with a minimum grade of C
Teams work with a client in the development of projects that incorporate various aspects of Biomedical Engineering. Emphasizes formal engineering design principles; engineering ethics, risk analysis, safety in design and FDA regulations are reviewed.

BME 4883 Biomedical Engineering Design II (3) EN ECH
PR: BME 4882 with a minimum grade of C
Teams work with a client in the development of projects that incorporate various aspects of Biomedical Engineering. Emphasizes formal engineering design principles; engineering ethics, risk analysis, safety in design and FDA regulations are reviewed.

BME 4931 Selected Topics in Biomedical Engineering (1-3) EN ECH
Selected topics in biomedical engineering, which can include biomechanics, biomedical instrumentation and sensors, tissue and cellular engineering, and clinical engineering and health systems.

BME 5040 Pharmaceutical Engineering (2) EN ECH
Introduction to pharmaceutical engineering, including dosage forms (tablets, capsules, powders, liquids, topical forms, and aerosols), excipients, regulatory issues, clinical studies, and good manufacturing practices.

BME 5105 Introduction to Biomedical Engineering (3) EN ECH
PR: CHM 2045, and MAC 2311 or MAC 2281 or MAC 2241
This course is designed to introduce students from engineering and other disciplines to a range of topics in biomedical engineering. The course will cover engineering tools and techniques applied to medicine and biology.

BME 5320 Theory and Design of Bioprocesses (3) EN ECH
Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems.

BME 5910 Directed Research in Bioengineering (1-3) EN ECH
Directed research in an area of biomedical engineering or engineering biotechnology.

BME 5937 Selected Topics in Biomedical Engineering (1-3) EN ECH
Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems. May be taken by non-engineering students with CI. Repeatable as subjects vary.

BMS 5005 Professions of Medicine: Foundations of Doctoring (1-19) MD MSG
This three-week course placed at the beginning of the medical school curriculum will introduce the students to principles that will be used through the entire medical school education and beyond. Basic scientists and clinicians present information in an integrated approach. Topical areas include: use of information resources (library/computer), the medical article, intro to evidence based medicine, effective study techniques, intro to the physical exam, cultural diversity, ethics and professionalism, and state of the art presentation. The course will use both large and small group learning techniques and students will demonstrate achievement of knowledge.

BMS 5015 Clinical Diagnosis and Reasoning (var.) MD MSG
This course aims to provide the student with the opportunity to "think like a physician." It will provide the venue to integrate clin diagnosis/reasoning strategies with complementary aspects of clin problem solving/phys diagnosis/evidence based medicine.

BOT 3152C Field Botany (3) AS BIN
A field course emphasizing identification and classification of native and naturalized flowering plants of Florida including historical, climatic, and floristic aspects of plant communities. Fieldwork required. Lecture and Laboratory.

**BOT 3373C Vascular Plants: Form and Function (4) AS BIN**

PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L & CHM 2045, CHM 2046 & MAC 1105 or higher-level MAC course or STA 2023

Introduction to morphology, physiology and evolution of vascular plants, integrating form and function to understand diversity. Lecture and Laboratory.

**BOT 3850 Medical Botany (3) AS BCM**


Study of agents that are produced by plants and that are toxic or psychoactive in human beings or are useful as remedies. Lecture only.

**BOT 4434C Mycology (3) AS BCM**

PR: BOT 3373C or MCB 3020 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023,

CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.

A survey of the fungi with emphasis on their taxonomy, morphology, physiology and economic importance. Lec.-lab.

**BOT 4601 Plant Ecology (3) AS BIN**

PR: PCB 3043

This course covers plant ecology on a number of different scales, from that of individuals and their physiology, to those of populations, communities, landscapes, and biomes. The course will emphasize critical thinking and writing skills.

**BOT 4810C Economic Botany (3) AS BIN**

PR: BOT 3373C.

Study of the uses of plants by man for food, chemicals, fibers, and medicines.

**BOT 4851 Plants and Human Health (3) AS BIN**

PR: BSC 2010 / C- OR BSC 2011 / C-

This course is a study about the natural history and nature of plant chemical constituents, and about the historic, present, and future roles of plants in human health.

**BSC 1005 Biological Principles for Non Majors CANL (3) AS BIN**

A comprehensive introduction to living systems, including the scientific basis of biology, cell structure and function, genetic mechanisms, human anatomy and physiology, and ecological and evolutionary processes.

**BSC 1020 The Biology of Humans CANL (3) AS BCM**

This non-science majors course deals with the principles and applications of human biology. Topics include: scientific literacy, cell structure and function, anatomy and physiology, genetics, infectious diseases, and biotechnology.

**BSC 2010L Cellular Processes Laboratory (1) AS BCM**

CR: BSC 2010L.

This course deals with biological systems at the cellular and subcellular levels. Topics include an introduction to biochemistry, cell structure and function, enzymes, respiration, mitosis and meiosis, genetics and gene expression.

**BSC 2010L Cellular Processes Laboratory (1) AS BCM**


Laboratory portion of Biology I Cellular Processes relating to cellular and subcellular structure and function. Mitosis, meiosis, and Mendelian genetics will be stressed.

**BSC 2011 Biodiversity CANL (3) AS BIN**

CR: BSC 2011L

Biodiversity is an analysis of biological systems at the organismal level: evolution, speciation, history of life, and ecology.

**BSC 2011L Biodiversity Laboratory (1) AS BIN**


Laboratory portion of Biology II Diversity relating to organismal structure and function. Microscopy, as well as, plant and animal development will be stressed.

**BSC 2025 Food: Personal and Global Perspectives (3) AS BIN**

The application of basic biological principles to human nutritional problems; to learn how various cultures achieve adequate nutrition and how environmental changes impact both personal and global nutrition.

**BSC 2035 Sex and Today's World (3) AS BIN**

The application of basic biological principles to female and male sexual behavior and reproduction; current social problems are treated from a biological perspective. May be taken by majors for free elective credit.

**BSC 2050 Environment CANL (3) AS BIN**

A comprehensive introduction to the environment, including the scientific basis of ecology, population growth, community and ecosystem ecology, biodiversity, resource use and availability, energy production water, air and land pollution.

**BSC 2085 Anatomy and Physiology I for Health Professionals CANL (3) NR NUR**

CR: BSC 2085L.

Introduction to the normal structure, function and selected pathological conditions for physiologic systems. Focus on understanding how the body functions in preparing for careers in nursing or health-related professions.

**BSC 2085L Anatomy and Physiology Lab I for Nursing and other Healthcare Professionals (1) NR NUR**

CR: BSC 2085.

Laboratory exercises and virtual dissections linked to the basic content of Anatomy & Physiology I for Health Professionals.

**BSC 2086 Anatomy and Physiology II for Nursing and other Healthcare Professionals CANL (3) NR NUR**
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Area Code</th>
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<tbody>
<tr>
<td>PR: BSC 2085 and BSC 2085L, CR: BSC 2086L.</td>
<td>Introduction of normal structure, function and selected pathological conditions for physiologic systems. Focus on understanding how the body functions in preparing for careers in nursing or health-related professions.</td>
<td>3</td>
<td>AS BCM</td>
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<tr>
<td>BSC 2086L Anatomy and Physiology Lab II for Nursing and other Healthcare Professionals (1)</td>
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<td>NR NUR</td>
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<tr>
<td>PR: BSC 2085 and BSC 2085L. CR: BSC 2086.</td>
<td>Laboratory exercises and virtual dissections linked to the basic content of Anatomy &amp; Physiology II for Health Professionals.</td>
<td>1</td>
<td>AS BIN</td>
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<tr>
<td>BSC 2093C Human Anatomy and Physiology I (4) AS BIN</td>
<td>Basic biochemistry, cell structure and function, tissues, anatomical terminology, anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. Lecture and Laboratory.</td>
<td>4</td>
<td>AS BIN</td>
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<tr>
<td>BSC 2094C Human Anatomy and Physiology II (4) AS BIN</td>
<td>Anatomy and physiology of the autonomic nervous, endocrine, circulatory, lymphatic, immune, respiratory, digestive, excretory, and reproductive systems. Lecture and Laboratory.</td>
<td>4</td>
<td>AS BIN</td>
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<tr>
<td>BSC 2932 Selected Topics in Biology (1-3) AS BIN</td>
<td>The course content will depend on student demand and instructor's interest.</td>
<td>1-3</td>
<td>AS BIN</td>
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<tr>
<td>BSC 2933 Honors Seminar II: Philosophy And Ethics Of Science (3) AS BIN</td>
<td>Introduction is limited to department of biology honors students. Introduction to the nature of science. Historical perspectives, modes of reasoning, science vs. Pseudoscience, science as an intellectual process, ethics, and resolving dilemmas.</td>
<td>3</td>
<td>AS BIN</td>
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<tr>
<td>BSC 2934 Honors Seminar III: Scientific Approaches (3) AS BIO</td>
<td>The course will begin to familiarize students with the process of conducting scientific research.</td>
<td>3</td>
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<tr>
<td>BSC 2938 Honors Seminar I (1) AS BIO</td>
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<tr>
<td>PR: BSC 2010, BSC 2010L &amp; CHM 2045.</td>
<td>Enrollment is limited to Department of Biology Honors students. Course is designed to introduce Honors students to various research fields and current research in the Department. Faculty members present research seminars and discuss their work.</td>
<td>1</td>
<td>AS BCM</td>
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<tr>
<td>BSC 3022 Biology of Aging (3) AS BCM</td>
<td>An overview of cellular and molecular aspects of the aging process in human systems will be explored through lecture, discussion and virtual formats. For non-majors.</td>
<td>3</td>
<td>AS BIN</td>
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<tr>
<td>BSC 3085L Anatomy and Physiology Lab II for Nursing and other Healthcare Professionals (1)</td>
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<tr>
<td>PR: BSC 2085 and BSC 2085L. CR: BSC 2086.</td>
<td>Laboratory exercises and virtual dissections linked to the basic content of Anatomy &amp; Physiology II for Health Professionals.</td>
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<td>AS BIN</td>
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<tr>
<td>BSC 3312 Marine Biology (3) AS BIN</td>
<td>A survey of the marine environment, the types of organisms found inhabiting a variety of marine habitats, and the adaptations of the organisms to those habitats. Emphasis is placed on shallow water Florida environments. Lecture only.</td>
<td>3</td>
<td>AS BIN</td>
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<tr>
<td>BSC 3813 Life Science Fundamentals for Teachers (4) AS BIN</td>
<td>Study of biological, economic, ethical, legal, political and social issues relating to current environmental problems.</td>
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<td>AS BIN</td>
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<tr>
<td>BSC 4057 Environmental Issues (3) AS BIN</td>
<td>Study of biological, economic, ethical, legal, political and social issues relating to current environmental problems.</td>
<td>3</td>
<td>AS BIN</td>
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<tr>
<td>BSC 4313C Advanced Marine Biology (4) AS BIN</td>
<td>A detailed analysis of marine environment in the Tampa Bay or surrounding area. Field and laboratory work will provide direct experience with the system.</td>
<td>4</td>
<td>AS BIN</td>
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<tr>
<td>BSC 4333 Ecology Of Aquatic Vascular Plants (3) AS BIN</td>
<td>A study of aquatic vascular plants, biological adaptations to aquatic environments, factors influencing community composition, how they influence and are influenced by their habitats; includes a survey of key vascular plant in a wide range of communities.</td>
<td>3</td>
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<tr>
<td>BSC 4434 Bioinformatics (3) AS BCM</td>
<td>Focus is on general computational methods, their bio-basis, and how to evaluate analysis results. Qualitative algorithm descriptions are included.</td>
<td>3</td>
<td>AS BCM</td>
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<tr>
<td>BSC 4444L Genomics Laboratory (1) AS BIN</td>
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Laboratory exercises linked to the Genomics lecture course.

**BSC 4452 Computational Biology (3) AS BCM**
PR: CHM 2046 with a minimum grade of C-, MAC 2242 with a minimum grade of C- or MAC 2282 with a minimum grade of C- or MAC 2312 with a minimum grade of C-, STA 2023 with a minimum grade of C-, PHY 2049 with a minimum grade of C- or PHY 2054 with a minimum grade of C-

This course provides a general overview of the data-analytical and theoretical methods, mathematical modeling and computational simulation techniques available to study biological and social systems.

**BSC 4905 Independent Study (1-3) AS BIN**
Specialized independent study determined by the student's needs and interests. The written contract required by the Department of Biology specifies the regulations governing independent study.

**BSC 4910 Undergraduate Research (1-4) AS BIN**
PR: CHM 2210 and MAC 1105 or higher MAC course or STA 2023
CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.

S/U only. Junior standing and 3.0 GPA required. Individual investigation with faculty supervision. Written contract by Department is necessary prior to registration.

**BSC 4932 Honors Seminar IV (1) AS BIO**
PR: BSC 2934 and BSC 4910 or MCB 4910;
CPR: CHM 2211.

The course serves as a formal introduction to the presentation of scientific research. It is taken in the semester prior to completion of a student's own research project and the writing of the Biology Honors Thesis.

**BSC 4933 Selected Topics in Biology (1-4) AS BIN**
The course content will depend on student demand and instructor's interest.

**BSC 4935 Seminar in Cell and Molecular Biology (1) AS BCM**
PR: PCB 3023, PCB 3063, MCB 3410

This seminar course provides opportunity for students to attend and critique departmental seminars and to read, interpret, and critique research papers from the primary literature. These will be done orally and in written assignments.

**BSC 4937 Seminar in Marine Biology (2) AS BIN**
PR: BSC 3312C and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023.
CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.

Course focuses on developing the student's understanding of contemporary research in the field of Marine. Background information presented and assigned reading will vary according to instructor.

**BSC 4940 Biology Internship (3) AS BIN**
PR: BSC 2010/C- OR BSC 2011/C-

A course to oversee and guide students internship experience. Internship will be coordinated with a mentor external to the course. Students will meet to discuss internship experiences and progress, and present results.

**BSC 4970 Biology Honors Thesis (1-3) AS BIN**
PR: BSC 2934 and either BSC 4931 or BSC 4932.
A thesis based on independent research carried out by the student.

**BSC 5425 Genetic Engineering and Recombinant DNA Technology (3) AS BCM**
PR: PCB3023, PCB3063, either PCB3023L or PCB3063L

This lecture-based course will use a problem solving approach, provide fundamental knowledge of scientific concepts and principles that form the basis of experimental methodologies in genetic engineering and recombinant DNA technology. For majors/nonmajors.

**BSC 5931 Selected Topics in Biology (1-4) AS BIN**

**BUL 3320 Law And Business I (3) BA ACC**
This course covers the nature of legal and societal institutions and environments, and major aspects of public, private, UCC and related business law.

**BUL 3321 Law And Business II (3) BA ACC**
PR: BUL 3320

Legal problems in marketing of goods, nature of property, sales of personal property, securing of credit granted, nature and use of negotiable instruments.

**BUL 5332 Law and the Accountant (3) BA GBA**
This course is designed for non-accounting students who need to understand, monitor and control risks. The content of this course spans corporate governance, risk strategy and legal/regulatory compliance including analysis of significant laws/regulations.

**CAP 4034 Computer Animation Fundamentals (3) EN ESB**
PR: COP 3331
CPR: COP 4530

An introductory course to computer animation. Topics include storyboarding, camera control, hierarchical character modeling, inverse kinematics, keyframing, motion capture, dynamic simulation, and facial animation.

**CAP 4063 Web Application Design (3) EN ESB**
PR: COP 4530

Analysis, design, and development of software that operates on web servers and web browsers, supporting multiple concurrent users.

**CAP 4401 Image Processing Fundamentals (3) EN ESB**
PR: COP 4530

Practical introduction to a range of fundamental image processing algorithms. Extensive programming, with emphasis on image analysis.
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and transformation techniques. Image transformation and manipulation.

**CAP 4410 Computer Vision (3) EN ESB**
PR: COP 4530.
Introduction to topics such as image formation, segmentation, feature extraction, matching, shape recovery, texture analysis, object recognition, and dynamic scene analysis.

**CAP 4662 Introduction to Robotics (3) EN ESB**
PR: COP 4530, EGN 4450
An introduction to the fundamentals of robotics. Students will learn the fundamentals of robotics including kinematics, inverse kinematics, Jacobian, velocity, configuration space, motion planning, and path planning algorithms.

**CAP 4800 Systems Simulation (3) EN ESB**
PR: COP 3331
CPR: COP 4530
An introduction to discrete-event simulation for performance modeling of computer systems. Topics include performance metrics, random number generation, workload generation, queueing theory, simulation languages, model design, and output analysis.

**CAP 5400 Digital Image Processing (3) EN ESB**
PR: COP 4530.
Image formation, sources of image degradation, image enhancement techniques, edge detection operators and threshold selection, low-level processing algorithms for vision, image data compression.

**CAP 5625 Introduction to Artificial Intelligence (3) EN ESB**
PR: COP 4530.
Basic concepts, tools, and techniques used to produce and study intelligent behavior. Organizing knowledge, exploiting constraints, searching spaces, understanding natural languages, and problem solving strategies.

**CAP 5771 Data Mining (3) EN ESB**
PR: Undergraduate Statistics.
An introductory course to mining information from data. Scalable supervised and unsupervised machine learning methods are discussed. Methods to visualize and extract heuristic rules from large databases with minimal supervision is discussed.

**CBH 4004 Comparative Psychology (3) AS PSY**
PR: PSY 3213 with a grade of C or better (a grade of C- is not acceptable) in CCJ 3117
The study of the evolution of behavior, similarities, and differences in capacities for environmental adjustment and for behavioral organization among important types of living beings.

**CCE 4031 Construction Management (3) EN EGX**
PR: EGN 3613C.
Fundamentals of construction management. Topics include: general definitions, organizational roles, types of contracts, analysis of labor and equipment, cost estimating, contractor cash flow analysis, planning and scheduling, project control, construction administration, quality and safety management, and use of computer software in construction management.

**CCE 5035 Construction Management & Planning (3) EN EGX**
PR: EGN 3613C.
Fundamentals of construction management. Topics include: general definitions, organizational roles, types of contracts, analysis of labor and equipment, cost estimating, contractor cash flow analysis, planning and scheduling, project control, construction administration, quality and safety management, and use of computer software in construction management.

**CCJ 3014 Crime and Justice in America CASB (3) BC CJP**
This course is a non-technical survey of the nature of crime in the United States and the ways in which our society seeks to deal with juvenile and adult offenders and victims of crime.

**CCJ 3024 Survey of the Criminal Justice System (3) BC CJP**
An introduction to the structure and operation of law enforcement, prosecution, the courts, and corrections. Also includes brief coverage of major reported crimes.

**CCJ 3117 Theories of Criminal Behavior (3) BC CJP**
PR: CCJ 3024
Provides a basic understanding of the complex factors related to crime, with concentration on principal theoretical approaches to the explanation of crime.

**CCJ 3621 Patterns of Criminal Behavior (3) BC CJP**
Reviews the nature and extent of the crime problem. The course will concentrate on major patterns of offender behavior including crimes against the person, property crimes, violent crimes, economic/white collar offenses, organized (organized) crimes, consensual crimes, female crime, political crime, and will examine criminal career data.

**CCJ 3701 Research Methods in Criminal Justice I (3) BC CJP**
PR: a grade of C or better (a grade of C- is not acceptable) in CCJ 3117
Introduces the student to some of the fundamentals of knowledge-generating processes in criminal justice.

**CCJ 4224 Miscarriages of Justice (3) BC CJP**
To provide a critical examination of the current functioning of the American criminal justice system and to discuss how procedures used by police, prosecutors, defense attorneys, judges, and corrections agents potentially produce miscarriages of justice.

**CCJ 4361 Death Penalty (3) BC CJP**
The primary purpose of this class is to provide a critical examination of capital punishment in the United States. It will also delve into the key dimensions of the death penalty debate and
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justifications for the death penalty and arguments for abolition.

CCJ 4450 Criminal Justice Administration (3) BC CJP
PR: CJE 4114 or CJT 4100
This course is designed to provide an in-depth examination of both the practical and theoretical aspects of the administration of criminal justice agencies. The major focus will be on law enforcement and correctional agencies.

CCJ 4604 Abnormal Behavior and Criminality (3) BC CJP
PR: CCJ 3117
A systematic introduction to the relationship between mental illness and criminality, with focus on psychiatric labeling of deviant behavior and its implications for the handling of the criminal offender.

CCJ 4613 Forensic Psychology (3) BC CJP
An upper-level course designed to provide students with an overview of the interdisciplinary field of psychology and law. The course explores how the disciplines of psychology and law can benefit from an exchange of ideas, and thus improve both fields.

CCJ 4651 Drugs and Crime (3) BC CJP
The objective of this course is to provide the student a comprehensive understanding of the dynamics of drug use in American society.

CCJ 4662 Race and Crime (3) BC CJP
The course focuses on race (racial bias, racial inferiority, cultural norms and adaptations) and social class (structural deficiencies, economic deprivation, economic exploitation, social capital) as they relate to one another, crime and life in general.

CCJ 4681 Domestic Violence (3) BC CJP
This course is designed to examine the criminal justice systems response to domestic violence by focusing on the interactions between battered persons and the individual components of the criminal justice system.

CCJ 4690 Sex Offenders (3) BC CJP
This course is designed to cultivate a psychological, criminological, and legal understanding of sex crimes and sex offenders. This course will provide an overview of current theoretical and clinical issues related to sexual offenders and sexual offenses.

CCJ 4700 Statistical Research Methods in Criminal Justice II (3) BC CJP
PR: CCJ 3024 or CCJ 3117
Beginning with the scientific method, the tools commonly used to analyze criminal justice data will be emphasized. Recommended for students who intend to continue their education beyond the B.A. Required of students attending the MA program in CCJ at USF.

CCJ 4900 Directed Readings (1-3) BC CJP
PR: CCJ 3024, CCJ 3117, CCJ 3621
(a) Students wishing to enroll must make arrangements with a faculty member during the semester prior to actually taking the course. (b) A minimum of four 4 CCJ courses must have been completed satisfactorily prior to enrollment. (c) First consideration will be given to Criminology majors. (d) Individual faculty members may add additional requirements at their discretion. No more than six hours of CCJ 4900, CCJ 4910 or any combination of the two will be accepted toward the minimum number of hours required for the major. This course is specifically designed to enable advanced students the opportunity to do in-depth independent work in the area of criminal justice. Each student will be under the close supervision of a faculty member of the program.

CCJ 4910 Directed Research (1-3) BC CJP
PR: CCJ 3024, CCJ 3117, CCJ 3621
(a) Students wishing to enroll must make arrangements with a faculty member during the semester prior to actually taking the course. (b) A minimum of four 4 CCJ courses must have been completed satisfactorily prior to enrollment. (c) First consideration will be given to Criminology majors. (d) Individual faculty members may add additional requirements at their discretion. No more than six hours of CCJ 4900, CCJ 4910 or any combination of the two will be accepted toward the minimum number of hours required for the major. This course is designed to provide students with a research experience in which they will work closely with faculty on the development and implementation of research projects in the area of criminal justice.

CCJ 4930 Critical Issues in Policing (3) BC CJP
PR: CCJ 3024 or CJE 4114
Focuses on some of the most critical issues in law enforcement today including: understanding and controlling police use of deadly force; police deviance; police prejudice and discrimination; violence-prone police officers; substance abuse by police officers; and administrative review of alleged police brutality.

CCJ 4933 Selected Topics in Criminology (3) BC CJP
PR: CCJ 3024, CCJ 3117, CCJ 3621
Lecture course. Topic varies and is designed to address a wide variety of issues in criminology and criminal justice. Open to non-majors with CI.

CCJ 4934 Seminar in Criminology CPST 6ACT (3) BC CJP
PR: a grade of C or better (a grade of C- is not acceptable) in CCJ 3701.
These variable topic seminars are used for the in-depth study and discussion of the relationships among culture, gender, ethics, age, society, and criminal behavior. Such examinations may include the options the criminal justice does (or does not) have to deal with these interactions, and the ethics and efficacy of the system's response. Open to non-majors with CI.
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<th>Course Code</th>
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| CDA 4203 | Computer System Design (3) | EN ESB
| CDA 3201 | Computer Logic and Design | EN ESB
| CDA 3201L | Computer Logic and Design Lab (1) | EN ESB
| CDA 3103 | Computer Organization for Information Technology (3) | EN ESB
| CDA 5416 | Computer System Verification (3) | EN ESB
| CCJ 4970 | Honors Thesis (3) | BC CJP
| CCJ 4940 | Internship for Criminal Justice Majors (3) | BC CJP
| CCJ 4934 | Honors Thesis (honors section) | CCJ 4910
| CDA 3201 | Computer Organization for Information Technology (3) | EN ESB
| CDA 3201L | Computer Logic and Design Lab (1) | EN ESB
| CDA 4213 | CMOS-VLSI Design (3) | EN ESB
| CDA 4213L | CMOS-VLSI Design Lab (1) | EN ESB
| CDA 4253 | Field Programmable Gate Array System Design and Analysis (3) | EN ESB
| CDA 4621 | Control of Mobile Robots (3) | EN ESB
| CDA 4622 | Introduction to Mobile Robotics for Information Technology (3) | EN ESB
| CDA 4623 | Advanced Mobile Robotics for Information Technology (3) | EN ESB

- **CDA 4205** Computer Architecture (3) EN ESB
  - Principles of the design of computer systems, processors, memories, and switches.
  - Consideration of the register transfer representation of a computer, ALU's and their implementation, control units, memory and I/O, and the hardware support of operation systems.

- **CDA 4203** Computer System Design (3) EN ESB
  - Design Methods, Top-Down design, Building Blocks, Instruction and addressing models, minicomputer design, interfacing.

- **CDA 3201** Computer Logic and Design | EN ESB
  - Introduction to computer hardware, log elements and Boolean algebra, computer arithmetic, the central processing unit, assembly language programming, input/output, and memory.

- **CDA 3201L** Computer Logic and Design Lab (1) | EN ESB
  - Laboratory component of the Computer Logic and Design class.

- **CDA 4203** Computer System Design (3) | EN ESB
  - Design Methods, Top-Down design, Building Blocks, Instruction and addressing models, minicomputer design, interfacing.

- **CDA 4203L** Computer System Design Lab (1) | EN ESB
  - This lab introduces the student to the concept of system design. Several projects are given including building timing circuits, memory-based and communication circuits, and microcomputer-based designs.

- **CDA 4205** Computer Architecture (3) | EN ESB
  - EN ESB
  - Principles of the design of computer systems, processors, memories, and switches.
  - Consideration of the register transfer representation of a computer, ALU's and their implementation, control units, memory and I/O, and the hardware support of operation systems.

- **CCJ 4970** Honors Thesis (3) | BC CJP
  - The student, under the direction of a faculty member, will formalize, conduct, analyze, and report in writing a research project in the Department of Criminology. The course is not repeatable. Majors only.

- **CCJ 4940** Internship for Criminal Justice Majors (3) | BC CJP
  - The internship will consist of placement with one of the agencies comprising the criminal justice system. This course will enable the student to gain meaningful field experience related to their future careers. The three-hour block of credit will require a minimum of ten hours of work per week during a fall or spring term, fifteen hours per week in summer, within the host agencies in addition to any written work or reading assignments. See requirements for the B.A. degree in Criminology for the number of hours required.

- **CCJ 4934** Honors Thesis (honors section) | CCJ 4910
  - The student, under the direction of a faculty member, will formalize, conduct, analyze, and report in writing a research project in the Department of Criminology. The course is not repeatable. Majors only.

- **CDA 3201** Computer Organization for Information Technology (3) | EN ESB
  - Elements of a computer are discussed in terms of the physical and conceptual design of memory, processors, busses, and I/O. Applications to IT are emphasized.

- **CDA 3201L** Computer Logic and Design Lab (1) | EN ESB
  - Laboratory component of the Computer Logic and Design class.

- **CDA 4213** CMOS-VLSI Design (3) | EN ESB
  - Scalable CMOS layout design, circuit extraction, transistor-level and lay-out level simulation, SPICE parameters/modeling, transistor sizing, standard and macro-cell based layout, static/dynamic CMOS, combinational/sequential block layout, memory I/O design.

- **CDA 4253** Field Programmable Gate Array System Design and Analysis (3) | EN ESB
  - Introduction to field programmable logic gates and gate arrays. Introduces the requirements for field programmable systems; testing of circuitry, and analysis of system design.

- **CDA 4621** Control of Mobile Robots (3) | EN ESB
  - Mobile Robotic Control Systems design and implementation. Includes microcontroller, sensor, and actuator control processes for localization and navigation. Team project development of software interface for robot control.

- **CDA 4622** Introduction to Mobile Robotics for Information Technology (3) | EN ESB
  - Introduction to mobile robot systems covering aspects that include robot architectures, sensors, actuators, control and behavior. Students will learn and experience mobile robot systems using either Physical Robots or Simulated Robots.

- **CDA 4623** Advanced Mobile Robotics for Information Technology (3) | EN ESB
  - The course gives an overview of advanced mobile robotic systems covering aspects that include path planning and collision avoidance. Additional themes may vary such as collaboration and competition in multiple Physical or Simulated robots.

- **CDA 5416** Computer System Verification (3) | EN ESB

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PR: CDA 3201, COT 3100, COT 4400, COP 4530. This course introduces basic concepts of formal verification. Topics include formal specification, algorithms, and methodologies for scalable verification. It is only for CSE majors or non-majors with permission from the instructor, not repeatable.

CEG 4011 Geotechnical Engineering I (3) EN EGX
PR: EGN 3353, EGN 3331.
Fundamental and experimental concepts in soil mechanics with emphasis on soil properties, soil moisture, soil structure, and shearing strength.

CEG 4011L Geotechnical/Transportation Laboratory (1) EN EGX
CR: CEG 4011.
Demonstrates and experiments verifying theoretical bases of Geotechnical and Transportation Engineering. One hour lecture and two laboratory hours per week.

CEG 4012 Geotechnical Engineering II (3) EN EGX
PR: CEG 4011.
Design of retaining walls, earth slopes, foundations to control settlement, soil stabilization and foundations subjected to dynamic loads. Computer applications to soil mechanics will be covered.

CEG 4850 Capstone Geotechnical/Transportation Design CPST (3) EN EGX
PR: CEG 4011, TTE 4004. CR: CEG 4012, CGN 4851, TTE 4005
A capstone geotechnical/transportation design experience for seniors in Civil and Environmental Engineering. Design of embankment and pavement bases. Comprehensive surface streets, open highway intersection and site design, plan preparation.

CEG 5115 Foundation Engineering (3) EN EGX
PR: CEG 4011
Design of shallow foundations, cantilevered and anchored retaining walls, piling, drilled piers and special foundations. Computer applications to geotechnical engineering are covered.

CEG 5205 Laboratory for Geotechnical Engineers (3) EN EGX
PR: CEG 4011
Both routine and advanced forms of soil testing are covered. Emphasis is placed on procedures and application of results to design.

CEN 3722 Human Computer Interfaces for Information Technology (3) EN ESB
PR: COP 3515 and (COP 2513 or COP 2250)
Human-Computer Interface is the study of people, computer technology and the ways these influence each other. The basic foundations of HCI in terms of psychology, computer systems and their integration into design practice are discussed in the course.

CEN 4020 Software Engineering (3) EN ESB
PR: COP 4530.
An overview of software engineering techniques for producing high quality software. Student will participate in a software development team.

CEN 4031 Software Engineering Concepts for Information Technology (3) EN ESB
PR: COP 4538
Concepts to produce high-quality software through software-engineering techniques are covered. The software life cycle is covered, as are common software vulnerabilities. Students are required to participate in a software-development team project.

CEN 4072 Software Testing (3) EN ESB
PR: COP 2510, COP 4530.
The course provides the fundamental principles and tools for testing and validating large-scale software systems. The course is open to majors as well as non-majors.

CEN 4360 Mobile Applications Development for IT (3) EN ESB
PR: COP 3515
The development architecture for mobile apps is presented as are a number of development tools. Students design and implement mobile apps of varying complexity with a focus on the project development process.

CEN 4721 User Interface Design (3) EN ESB
PR: COP 4530.
An examination of factors influencing the usability of a computer system. Topics include input and output devices, graphic and multimedia interfaces, formats for interaction/communication between computer and user, and the evaluation of usability.

CES 3102 Structures I (3) EN EGX
PR: EGN 3331
Analysis of simple structural systems, both determinate and indeterminate. Moment area theorems; influence lines; introduction to steel design.

CES 4141 Finite Element Analysis I (3) EN EGX
PR: CES 4141.

CES 4561 Computer Aided Structural Design (3) EN EGX
PR: CES 4141.
Computer aided structural analysis and design using existing finite element program, static dynamic loading.

CES 4605 Concepts of Steel Design (3) EN EGX
PR: CES 3102.
Introduction to steel design and AISC Manual of Steel Construction: Design of tension members;
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compression members; beams; beam columns; and bolted, welded, and riveted connections.

CSES 4702 Concepts of Concrete Design (3) EN EGX
PR: CES 3102.
Introduction to concrete design and the ACI Building Code Requirements for reinforced concrete: Design of flexural reinforcement in beams and slabs, design of shear reinforcement, design of concrete columns.

CSES 4704 Capstone Structural/Materials Design (3) EN EGX
PR: EGN 3365, CES 4605, CES 4702.
A Capstone Materials design experience for seniors in Civil and Environmental Engineering. This course will provide students with a focused design experience aimed to design for durability and reliability.

CSES 4750 Capstone Structural/Geotechnical/ Material Design CPST (3) EN EGX
PR: EGN 3365, CES 4605, CES 4702, CEG 4011 CPR: CGN 4851, CEG 4012 or TTE 4005.
A capstone structural/ geotechnical/ materials design experience for seniors in Civil and Environmental Engineering. Design of structures and foundations made of steel and reinforced concrete.

CSES 4820C Timber and Masonry Design (3) EN EGX
PR: CES 3102, CES 4702.
Fundamentals of timber design including beams, columns, connections and formwork. Introduction to masonry design including design of beams, walls, columns, and pilasters.

CSES 5105C Advanced Mechanics of Materials I (3) EN EGX
PR: EGN 3331, MAP 2302
Analytical study of the mechanical behavior of deformable solids. Basic concepts, stress and strain transformations, special topics in beams, theory of elasticity, criteria of failure, beams on elastic foundation.

CSES 5209 Structural Dynamics (3) EN EGX
PR: CES 3102, EGN 3321.
Behavior of structural components and systems when subjected to periodic dynamic loads.

CSES 5715C Prestressed Concrete (3) EN EGX
Fundamental principles of prestressing; calculation of losses; stress analysis and design of simple beams for flexure and shear. Examples of pressures applications.

CGN 3021L Civil Engineering Laboratory (2) EN EGX
PR: CES 3102, EGN 3353, EGN 3365
A laboratory experience in departmental facilities including the subject areas of materials, fluids, environmental engineering, and computer assisted data acquisition.

CGN 4122 Professional and Ethical Issues in Engineering (1) EN EGX
The professional and ethical responsibility of engineers. The legal and ethical responsibilities of engineers in the preparation of contracts and specification. The ethics of engineer-client agreements.

CGN 4851 Concrete Construction Materials (3) EN EGX
PR: EGN 3365
Classifications and production of cements. Design and testing of concrete mixes to produce desired properties.

CGN 4905 Independent Study (1-5) EN EGX
Specialized independent study determined by the students’ needs and interests.

CGN 4933 Special Topics in Civil and Environmental Engineering (1-3) EN EGX
New technical topics of interest to civil engineering students.

CGN 4933 Special Topics in Civil Engineering and Mechanics (1-5) EN EGX
New technical topics of interest to civil engineering students.

CGS 1540 Introduction to Databases for Information Technology (3) EN ESB
An introduction to databases, their uses, design, and implementation with IT applications. Query languages, data organization, and modeling are covered. The course emphasizes standard practices for managing information.

CGS 2034 Computers and Impact on Society CASB (3) EN ESB
This course surveys current technology, and its application to various other disciplines. The course includes technical descriptions and protocols for computers. The course compares interdisciplinary applications between fields using technology.

CGS 2060 Introduction to Computers and Computer Programming CAQR 6AMT (3) EN ESB
Introduction to computer programming using a modern high-level language and the application of computational methods to problem solving. Overview of computer systems and their application and role in society.

CGS 2062 Computers And Society (3) EN ESB
This computer literacy course covers the fundamentals of hardware, software, and programming languages, presents a broad overview of data processing concepts, problems and applications for students with little or no computing background.

CGS 2094 CyberEthics CAGC (3) EN ESB
Many ethical issues, e.g. privacy, freedom of speech, security, intellectual property, and workplace globalization, are impacted by computing and related technology. These issues are examined from theoretical, cultural, and geopolitical perspectives.

CGS 2100 Computers in Business (3) BA QMB
A study of the use and impact of computers in all areas of business organizations. Course includes hands-on experience and the use of software packages for business analysis.

CGS 2935 Special Topics in General Computer Studies (1-3) EN ESB
Courses are one-time topics in general computer studies, applicable to all students. Specific course titles will be specified when the course is posted on the schedule.

CGS 3303 IT Concepts (3) EN ESB
PR: CGS 1540
Elements of computers are discussed. Core areas of IT are introduced: human computer interaction, information management, networking, system administration and maintenance, system integration and architecture, and web systems and technologies.

CGS 3343 Health Information Systems for Information Technology (3) EN ESB
PR: CGS 1540
Overview of information systems used in health care industry; processes used in the acquisition, application and evaluation of software and hardware systems along with effective use and capturing of data as well as the related HIPAA and security issues.

CGS 3845 Electronic Commerce (3) EN ESB
PR: COP 3515
The technical issues of how e-commerce is conducted and managed, including its major opportunities, issues, and risks are presented. Security issues specific to e-commerce are covered.

CGS 3853 Web Systems for IT (3) EN ESB
PR: CEN 3722
Examines how web sites are developed. Focus on client-side and server-side scripting including HTML, JavaScript, and CSS. A substantial project requiring the design and implementation of an online web site is required.

CHI 1120 Modern Chinese I (4) AS WLE
Mandarin. An intensive study of basic skills: pronunciation, listening, comprehension, speaking, and some composition.

CHI 1121 Modern Chinese II (4) AS WLE
PR: CHI 1120 or equivalent.
A continuation of CHI 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

CHI 1955 Overseas Study in China (1-6) AS WLE
PR: CHI 1121, CHI 1121
Intensive study of Chinese language in China involving classroom instruction and cultural excursions conducted in Chinese. Must be enrolled in Tier I of the USF Chinese Learning in the Culture program in Qingdao. Students from other institutions eligible.

CHI 2220 Modern Chinese III (4) AS WLE
PR: CHI 1121 or the equivalent.
For language students who intend to attain basic proficiency.

CHI 2221 Modern Chinese IV (4) AS WLE
PR: CHI 2220 or the equivalent.
Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

CHI 3241 Advanced Chinese Conversation I (3) AS WLE
PR: CHI 2221
This is the first of a two-course sequence in advanced spoken Mandarin Chinese at the third-year level. Particular emphasis is placed on student performance in commonly encountered contexts in Chinese culture, both formal and informal.

CHI 3242 Advanced Chinese Conversation II (3) AS WLE
PR: CHI 3241.
This is the second of a two-course sequence in advanced spoken Mandarin Chinese at the third-year level. Particular emphasis is placed on student performance in commonly encountered contexts in Chinese culture, both formal and informal.

CHI 4443 Networking in China and America (3) AS WLE
PR: CHI 2221
Intensive study of Chinese language and culture at the upper division. Focus on interaction skills necessary to interact in business and professional settings.

CHI 4905 Directed Study (1-5) AS WLE
Permits study options in Modern Chinese not available in the regularly scheduled curriculum at departmental discretion.

CHI 4930 Special Topics (1-3) AS WLE
Varied topics.

CHM 2023 Chemistry for Today (3) AS CHM
PR: High school chemistry and mathematics including algebra are recommended.
An introduction to the principles and applications of modern chemistry including the properties of matter, structural view of matter and reactions, quantitative relations in chemical reactions, technological aspects and societal impact.

CHM 2032 Introduction to General, Organic, and Biochemistry I CANP (3) AS CHM
Fundamental concepts of general, organic, and biological chemistry.

CHM 2045 General Chemistry I CANP (3) AS CHM
PR: 550 SAT Quantitative score or completion of MAC 1105 College Algebra with a C or better AND one year of high school chemistry or completion of CHM 2023 with a grade of C or better.
Principles and applications of chemistry including properties of substances and reactions, thermochemistry, atomic-molecular structure and bonding, periodic properties of elements and compounds.
### CHM 2045L General Chemistry I Laboratory (1) AS CHM
- **CPR:** CHM 2045.
- Laboratory portion of General Chemistry I.
- Introduction to laboratory techniques; study of properties of elements and compounds; synthesis and analysis of natural and commercial materials.

### CHM 2046 General Chemistry II CANP (3) AS CHM
- **PR:** CHS 2440 or CHM 2045 with a minimum grade of C
- Principles and applications of chemistry including solutions, chemical thermodynamics, kinetics, equilibria, aqueous chemistry, electrochemistry, and nuclear chemistry.

### CHM 2046L General Chemistry II Laboratory (1)
- **AS CHM**
- **PR:** CHM 2045L or CHS 2440L with a minimum grade of C
- **CPR:** CHM 2046 with a minimum grade of C
- Laboratory portion of General Chemistry II.
- Continuation of chemistry laboratory.

### CHM 2210 Organic Chemistry I (3) AS CHM
- **PR:** CHM 2046, CHM 2046L with a C or better.
- Fundamental principles of organic chemistry.

### CHM 2210L Organic Chemistry Laboratory I (2) AS CHM
- **CPR:** CHM 2200 or CHM 2210.
- Laboratory portion of Organic Chemistry I.
- Introduction of organic laboratory principles and techniques.

### CHM 2211 Organic Chemistry II (3) AS CHM
- **PR:** CHM 2210 with a C or better.
- Continuation of organic chemistry.

### CHM 2211L Organic Chemistry Laboratory II (2) AS CHM
- **PR:** CHM 2210L
- **CR:** CHM 2211.
- Continuation of organic chemistry laboratory.

### CHM 3120C Elementary Analytical Chemistry (4) AS CHM
- **PR:** CHM 2046, CHM 2046L.
- Fundamentals of gravimetric, volumetric, spectrophotometric analysis.

### CHM 3415C Physical Chemistry Methods (4) AS CHM
- **PR:** CHM 2046 and MAC 2282 or MAC 2312 or MAC 2242
- This class will familiarize chemistry majors with the analytical and numerical math of physical chemistry and the use of specialized software for symbolic and numerical math and visualization.

### CHM 3610 Intermediate Inorganic Chemistry (3) AS CHM
- **PR:** CHM 2046, CHM 2046L.
- Fundamental principles of inorganic chemistry including atomic structure, bonding theories and structural consequences, transition metal chemistry and illustrative laboratory work.

### CHM 3610L Intermediate Inorganic Chemistry Laboratory (1) AS CHM
- **PR:** Two semesters of general chemistry lecture and lab
- **CR:** CHM 3610.
- Illustrative laboratory work concerning the fundamental principles of inorganic chemistry including atomic structure, bonding, transition metal chemistry, structural consequences and spectroscopic methods.

### CHM 3941 Peer Leading in Chemistry (3) AS CHM
- **PR:** CHM 2046
- The purpose of this course is to prepare students for the role of peer leader. Peer leaders work with students enrolled in chemistry courses on a regular basis. The course involves coverage of chemistry concepts and training in pedagogical techniques.

### CHM 4060 Use of Chemical Literature (1) AS CHM
- **PR:** CHM 2045, CHM 2046, CHM 2210, CHM 2211.
- Discussions and assignments using abstracts, bibliographies, indices, encyclopedias, journals, patent files, electronic databases, and other information sources to obtain chemical and technical material and including written and oral presentations. Career information and opportunities also discussed.

### CHM 4070 Historical Perspectives in Chemistry 6ACT (3) AS CHM
- **PR:** One year of college chemistry
- A study in depth of the historical and philosophical aspects of outstanding chemical discoveries and theories.

### CHM 4130C Methods of Instrument Analysis (4)
- **AS CHM**
- **PR:** CHM 3120C, CHM 2211, CHM 2211L, CHM 4060, CHM 4410.
- Theory and applications of instrumental methods in chemical research, chemical synthesis and analysis; electrochemical and calorimetric techniques, separation methods, spectroscopy, statistical analysis of data, computer data handling, and individual projects.

### CHM 4131C Methods of Chemical Investigation II (4) AS CHM
- **PR:** CHM 4130C.
- Continuation of CHM 4130C.

### CHM 4230 Spectroscopic Analysis of Organic Compounds (3) AS CHM
- **PR:** CHM 2211
- The objective is to provide the student with a thorough understanding of the theory and use of spectroscopic techniques (MS, IR, UV-vis, and NMR,) and their use in identification of organic compounds from the spectroscopic data from techniques discussed.

### CHM 4274 Introduction to Drug Discovery (3) AS CHM
- **PR:** BSC 2010 and CHM 2211
- This course explores the entire drug discovery process, from initial target identification and hit generation through lead optimization and clinical
trials to FDA approval. Case studies will be used to illustrate the process.

CHM 4292 Introduction to Medicinal Chemistry (3) AS CHM
PR: CHM 2211 and BCH 3023
This course in medicinal chemistry is designed to acquaint students with modern applications of chemical techniques and methods to the discovery, design and synthesis of molecules that interact with biomolecular targets and thereby serve as new drugs.

CHM 4300 Biomolecules I (3) AS CHM
PR: CHM 2211.
Nature, structure, elucidation, synthesis and (in selected cases) organic chemical mechanisms of biochemical involvement of the major classes of organic compounds found in living systems.

CHM 4307 BioOrganic Chemistry (3) AS CHM
PR: BCH 3053 or BCH 4033
Discussion of current research directions in the field of chemical biology.

CHM 4410 Physical Chemistry I (4) AS CHM
PR: CHM 2046, MAC 2242 or MAC 2282 or MAC 2312, and PHY 2054 or PHY 2049.
Thermodynamics, the state of matter and solutions are presented. The course includes a recitation.

CHM 4410L Physical Chemistry Laboratory (1) AS CHM
PR: CHM 4410.
A physical chemistry laboratory with emphasis on modern techniques and instruments. Lab.

CHM 4411 Physical Chemistry II (4) AS CHM
PR: CHM 2046, MAC 2242 or MAC 2282 or MAC 2312, and PHY 2054 or PHY 2049.
Introduction to quantum mechanics and molecular spectroscopy. Chemical Kinetics and statistical mechanics are also presented. The course includes a recitation.

CHM 4413 Biophysical Chemistry (3) AS CHM
PR: CHM 2046, CHM 4410, MAC 2242 or MAC 2282 or MAC 2312, and PHY 2054 or PHY 2049.
This course will cover spectroscopy, bonding and kinetics with emphasis placed on biological molecules and biochemical reactions.

CHM 4418 Functional Porous Materials (3) AS CHM
PR: CHM 3610 with a minimum grade of C
The design and application of porous materials including porous organic polymers, porous carbon materials, zeolites, and metal-organic frameworks are presented.

CHM 4455 Chemistry of High Polymers (3) AS CHM
PR: CHM 2210
The purpose of this course is to prepare students for scientific careers in polymer science and technology or in related fields. The course involves coverage of chemistry concepts involving synthesis and characterization of polymeric materials.

CHM 4611 Advanced Inorganic Chemistry (3) AS CHM
PR: CHM 4410, CHM 2046, MAC 2242 or MAC 2282 or MAC 2312 and PHY 2054 or PHY 2049.
An advanced descriptive and theoretical treatment of inorganic compounds.

CHM 4905 Independent Study (1-3) AS CHM
Specialized independent study determined by the student's needs and interests. The written contract required by the College of Arts and Sciences specifies the regulations governing independent study.

CHM 4932 Selected Topics in Chemistry (1-3) AS CHM
The course content will depend on the interest of faculty members and student demand.

CHM 4970 Undergraduate Research (1-3) AS CHM

CHS 2440 General Chemistry for Engineers (3) AS CHM
PR: 550 SAT Quantitative score or completion of MAC 1105 College Algebra with a grade of C or better AND one year of high school chemistry or completion of CHM 2023 with a grade of C or better.
Introduction to important concepts and principles of chemistry with emphasis on areas considered most relevant in an engineering context.

CHS 2440L General Chemistry for Engineers Lab (1) AS CHM
## COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>CR: CHS 2440.</th>
<th>Laboratory portion of General Chemistry for Engineers. Introduction to laboratory techniques, study of properties of elements, synthesis and analysis of natural and commercial materials.</th>
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</thead>
</table>
| CHS 4300 Fundamentals of Clinical Chemistry (3) | AS CHM  
PR: BCH 3023.  
Theoretical and practical aspects of the analysis of various body fluids, with emphasis on the medical significance. |
| CHS 4301L Clinical Laboratory (2) | AS CHM  
PR: BCH 3023 and CHM 3120C  
Laboratory experience in some of the most important clinical determinations. Lec.-Lab. |
| CHT 3110 Traditional Chinese Literature in Translation (3) | AS WLE  
This course is a general survey of traditional Chinese literature from the beginnings to the Qing Dynasty (1911). Major genres including philosophical texts, poetry, fiction, drama, and prose are explored in English translation. |
| CHT 3124 Modern Chinese Literature in Translation (3) | AS WLE  
An introductory survey of modern Chinese literature in translation. The course begins with the end of the Qing Dynasty (1644-1911) and extends into contemporary China. Taught in English and open to all majors. The course is not repeatable. |
| CHT 3500 Introduction to Chinese Culture (3) | AS WLE  
An introductory survey of Chinese cultural traditions with an emphasis on themes important to successful interaction in contemporary Chinese society. The language of instruction is English. |
| CHT 3512 Contemporary Chinese Language and Society (3) | AS WLE  
An introductory survey of modern Chinese language and society taught in English and open to all majors. Course activities revolve around developing an understanding of Chinese language and society in the Reform Era (1976-present). |
| CHT 3520 Chinese Film (3) | AS WLE  
A survey of Chinese film taught in English and open to all majors. This course traces the development of Chinese film and the Chinese film industry from its beginnings in the early 1900s through the contemporary period. |
| CIS 3213 Foundations of Cyber Security (3) | EN ESB  
PR: COP 2512  
The fundamentals of cyber security are introduced. Students learn to identify attack phases, understand the adversary's motivations, the resources and techniques they use, and the intended end-game. Techniques for mitigating threats are described. |
| CIS 3360 Principles of Information Security (3) | AS LIS  
Board review of Information Security and related elements. Includes terminology, history of the discipline, overview of information security program management. Suitable for IS, criminal justice, political science, accounting information systems students |
| CIS 3362 Cryptography and Information Security (3) | AS LIS  
PR: MAD 2104  
This course examines classical cryptography, entropy, stream and block ciphers, public key versus symmetric cryptography, one-way and trap-door functions, plus other specific tools and techniques in popular use. |
| CIS 3367 Architecting Operating System Security (3) | AS LIS  
PR: CIS 3360  
This course examines tools and techniques for securing Windows and Linux operating systems. Students will acquire knowledge and skills to perform audit assessments and implement enterprise-wide operating system security. |
| CIS 3433 System Integration and Architecture for IT (3) | EN ESB  
PR: CGS 3303  
Role of systems architecture in systems integration, performance, and effectiveness. Principles and concepts of "devops" (development operations) interplay between IT applications rollout and related organizational processes. |
| CIS 3932 Special Topics for Information Technology (1-3) | EN ESB  
Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored. |
| CIS 4083 Cloud Computing for IT (3) | EN ESB  
PR: COP 3515 with a minimum grade of C-  
This is a hand-on class in the methods and technologies of cloud computing. Upon completion of this course students will be able to create, configure, build, deploy, and manage a variety of cloud based solutions. |
| CIS 4250 Ethical Issues and Professional Conduct CPST 6ACT (3) | EN ESB  
A capstone course for Department majors only, this course introduces students to ethical issues arising in the computer sciences, through written analysis and oral presentations of technical situations which involve ethical conflicts. |
| CIS 4253 Ethics for Information Technology 6ACT (3) | EN ESB  
This course will cover the professional code of ethics and a survey of ethical issues in computing such as intellectual property, security, privacy, and copyright. Class discussions cover ethical responsibilities of IT professionals and issues that are shaping our society. |
| CIS 4361 Information Assurance and Security Management for IT (3) | EN ESB  
PR: COP 3515  
The CIANA model, information security management techniques, and security concerns are presented. Topics include access control |
COURSE DESCRIPTIONS

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systems, network security, security management practices, cryptography, disaster recovery planning, and others.

CIS 4364 Cryptology and Information Security (3)  
PR: COP 4530  
Covers the fundamentals of computer security. The following topics are addressed: Network Security, Cryptography, Access Control, Security Architecture and Models, Applications and Systems Development, Vulnerability Assessment.

CIS 4365 Computer Security Policies and Disaster Preparedness (3)  
PR: CIS 3360.  
When an organization's functioning is interrupted by disasters, accidents, or natural events, a loss of data and/or productivity may occur. The impact on the organization is determined by how prepared it is for dealing with these disruptions.

CIS 4412 Resource Management for IT (3)  
PR: COP 3515  
An overview of the information resource management function, with emphasis on information systems management, is covered. Topics include planning, organizing and controlling user services, managing information system development process, and the fundamentals of EDP auditing.

CIS 4510 IT Project Management (3)  
PR: CIS 3360.  
This course offers the general aspects of project management and emphasizes the important, special considerations which apply to information technology projects. Supporting software is used extensively.

CIS 4900 Independent Study in Computer Science (1-5)  
PR: COP 4530 and CDA 3201  
Specialized independent study determined by the needs and interests of the student.

CIS 4910 Computer Science Project (2)  
PR: COP 4530  
Offers a focused team-based design experience incorporating appropriate engineering standards and multiple realistic constraints. Projects are proposed by industry and/or other partners and are completed within a defined development process.

CIS 4915 Supervised Research in Computer Science (1-5)  
PR: COP 4530 and CDA 3201  
Supervised research determined by the needs and interests of the student.

CIS 4930 Special Topics in Computer Science I (1-3)  
PR: COP 4530 and CDA 3201  
Special topics in computer science and computer engineering.

CIS 4932 Special Topics for Information Technology (1-3)  
PR: COP 4530 and CDA 3201  
Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.

CIS 4935 Senior Project in Information Technology CPST (3-5)  
PR: COP 4530 and CDA 3201  
This course is the capstone project for IT majors. Students are required to design, implement, and deliver a complete IT solution to a problem leveraging discipline-specific, critical thinking, and communication skills acquired in this major.

CIS 4940 Industry Internship (0-6)  
PR: COP 4530 and CDA 3201  
Individual study as practical computer science and/or computer engineering work under industrial supervision with a faculty approved outline and end-of-semester report.

CIS 4947 Industry Internship for IT (3)  
PR: COP 4530 and CDA 3201  
Practical information technology work under industrial supervision with a faculty-approved outline and end-of-semester report.

CJC 4010 American Correctional Systems (3)  
BC CJP  
PR: CCJ 3024 or CCJ 3117  
Analysis of the different treatment philosophies and techniques currently in use in the field, with special attention to experimental and demonstration programs.

CJC 4166 Alternatives to Incarceration (3)  
BC CJP  
PR: CCJ 3024 or CCJ 3117  
This course explores a variety of alternatives to imprisoning the offender, including probation, parole, diversion, and other community-based intervention and treatment approaches.

CJE 3444 Crime Prevention 6ACT (3)  
BC CJP  
PR: CCJ 3024, CCJ 3117  
The aim of this course is to introduce students to the theories and constructs of crime prevention and reduction, as well as techniques and policies used currently worldwide that would enhance US response to crime and justice. No restriction, not repeatable.

CJE 4010 Juvenile Justice System (3)  
BC CJP  
PR: CCJ 3024 or CCJ 3117  
Provides coverage of the juvenile and family courts, their clientele, and the complex of human services agencies and facilities that contribute to efforts at juvenile correctional intervention.

CJE 4114 American Law Enforcement Systems (3)  
BC CJP  
PR: CCJ 3024 or CCJ 3117  
This course provides a comprehensive examination of the American law enforcement system at the federal, state and local levels and an assessment of career opportunities within the community.

CJE 4610 Criminal Investigation (3)  
BC CJP  
PR: CCJ 3024 or CCJ 3117  
Covers the major components of criminal investigation, with special attention to the scientific aspects of criminal investigation and the management of major cases.
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CJL 3110 Substantive Criminal Law (3) BC CJP
PR: CCJ 3024, CCJ 3117
Examines the historical basis of the American criminal law system, the substantive elements of the crime, and court procedures.

CJL 4115 Environmental Law and Crime (3) BC CJP
PR: CCJ 3024
The course provides students with an introduction to issues in the area of environmental crime and environmental law.

CJL 4410 Criminal Rights and Procedures (3) BC CJP
PR: CCJ 3024
Emphasizes the Constitutional issues and rules that are applied and enforced by the courts while processing criminal cases.

CLA 3103 Daily Life in Ancient Greece CAHU 6ACT (3) AS WLE
This course surveys the major social, political, and cultural aspects of the ancient Greek world, examined both topically and chronologically across the centuries of the Ancient Greece, c. 1400 to 146 BCE.

CLA 3124 Daily Life in Ancient Rome CAHU (3) AS WLE
This course surveys the major social, political, and cultural aspects of the Roman world, topically and chronologically, from 753 B.C.E to 476 CE, through the literary, historical, and artistic records of the Romans.

CLA 3435 The Hellenistic World (3) AS WLE
A comprehensive look at the Greek-speaking world after Alexander the Great, from Italy to India. Emphasis is on the social, intellectual and aesthetic changes brought about by colliding cultures.

CLA 3503 Ancient Medicine: Quacks, Doctors, and Magicians (3) AS WLE
This course will investigate the historical importance of Greek and Roman medicine and cover its main developments from its beginnings around 1000 BCE until the dethronement of Hippocratic/Galenic theories around the 17th c. CE.

CLA 3930 Selected Topics (3) AS WLE
An examination of various aspects of Greek and Roman Culture, based on ancient sources, literary and archaeological. Repeatable as topics vary.

CLA 4501 Women in Antiquity 6ACT (3) AS WLE
Women in Antiquity surveys the social, political, and cultural life of women in the ancient Mediterranean world, historically and thematically, through lecture, reading, video, and slide presentations.

CLP 2001 Psychology of Adjustment (3) AS PSY
Genetic, organic, and learned factors involved in the processes of personal adjustment; applications of mental health principles to everyday living.

CLP 4134 Abnormal Child Psychology (3) AS PSY
PR: PSY 3213
This course provides an integration of theory, etiology, research, treatment, and prevention of maladaptive behavior from infancy through adolescence.

CLP 4143 Abnormal Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
Descriptions, theoretical explanations, research evidence, and treatment of maladaptive behavior.

CLP 4302 Introduction to Clinical Psychology (3) AS PSY
PR: PSY 3213, CLP 4143
This course provides an introduction to clinical psychology, including coverage of theories of behavior change and research designs. Evidence-based practices and mental health careers will be covered.

CLP 4414 Behavior Modification (3) AS PSY
PR: PSY 3213 with a grade of C or better
Introduction to behavior analysis, and application of learning principles, behavioral measurement, research designs, and interventions in treatment settings.

CLP 4433 Psychological Tests and Measurement (3) AS PSY
PR: PSY 3213 with a grade of C or better
A consideration of the instruments for intellectual and personality assessment including their applications, development, and potential abuses.

CLT 2044 Wordpower from Latin and Greek (3) AS WLE
Study of Greek/Latin elements as a means of building English vocabulary. Examination of Greek/Latin-based terminology from various scientific fields, its adoption into English and current usage. Attention given to Greek/Latin stems, prefixes, suffixes.

CLT 3040 Scientific and Medical Terminology (3) AS WLE
A course in the Greek and Latin word elements used in science and technology.

CLT 3103 Epic Battles and Dramatic Reversals in Greek Thought WRIN 6ACT (3) AS WLE
This class investigates the most important texts of the Archaic and Classical Greek world, which are analyzed in both a chronological sequence (c. 700 to 399 BCE) and by genre (epic poetry, philosophy, lyric, history, and drama).

CLT 3123 Voyages and Metamorphoses in Roman Imagination WRIN 6ACT (3) AS WLE
This course surveys the major literary texts of the ancient Roman world, examined through both the chronological order of their production (from the 3rd century B.C.E to the 2nd century C.E) and their classification into various literary genres.

CLT 3370 Gods, Heroes, and Monsters in the Ancient World CAHU (3) AS WLE
Classical Mythology surveys the myths, legends, and sagas of the Greeks and Romans chronologically (c. 1200 BCE to 17 CE) and thematically, through literature (prose and poetry),
iconography (art and architecture), and film (documentary and dramatic.)

CLT 3511 Fictional Rome in American Film (3) AS WLE
Fictional Rome surveys filmic representations of ancient Rome in Hollywood, to illustrate the imaginative power of cinema to shape our perceptions of the Roman past, and exploitation of them in the context of contemporary American history and culture.

CLT 3521 American Greece, American Rome (3) AS WLE
This course investigates the intellectual influence of Classical antiquity in the United States from the first colonies to the aftermath of 9/11. Students will contextualize and evaluate Greek and Roman models in American "formal" and "popular" culture.

CNT 4004 Computer Networks I (3) EN ESB
PR: COP 3331
CPR: COP 4530
An introduction to the design and analysis of computer communication networks. Topics include application layer protocols, Internet protocols, network interfaces, local and wide area networks, wireless networks, bridging and routing, and current topics.

CNT 4104 Computer Information Networks for Information Technology (3) EN ESB
PR: COP 3515
CR: CNT 4104L
Presents the design and analysis of computer networks. The emphasis is on application- and Internet-layer protocols. Network interfaces, Internet protocols, wireless networks, routing, and security issues are introduced.

CNT 4104L Computer Information Networks Laboratory for Information Technology (1) EN ESB
PR: COP 3515
CR: CNT 4104
This lab provides a hands-on introduction to computer networking and the protocols used to coordinate and control communications on them.

CNT 4403 Network Security and Firewalls (3) EN ESB
PR: CNT 4104
This course surveys network security standards and emphasizes applications that are widely used on the Internet and for corporate networks. This course also examines Firewalls and related tools used to provide both network and perimeter security.

CNT 4411 Computing and Network Security (3) EN ESB
PR: CNT 4004
The course is a study of fundamental concepts and principles of computing and network security. The course covers basic security topics, including symmetric and public key cryptography, digital signatures, hash functions, and network security protocols.

CNT 4504 Computer Networks II (3) EN ESB
PR: CNT 4004
CPR: COP 4530
Networking skills, hands-on experience in Internet technologies. Topics: Operation, Analysis and Evaluation of distributed systems, communication hardware/software, network monitoring and performance tools.

CNT 4603 System Administration and Maintenance for Information Technology (3) EN ESB
PR: CNT 4104 with a minimum grade of C-
Examines the activities related to the selection, installation and management of computer systems. Covers concepts essential to the administration of OS, networks, and services. Covers system documentation, policies and procedures.

COM 2000 Introduction to Communication GCPC (3) AS SPE
Introduction to the roles, contexts, and issues in contemporary human communication. Required of Communication majors.

COM 3014 Communication, Gender and Identity (3) AS SPE
Examines the communicative origins and implications of gender roles.

COM 3051 Analyzing Culture and Media (3) AS SPE
Applies theories of media and media industries to analysis of media texts to investigate relationships among culture, media, representation, and democracy. Majors only; non-majors by permit only. May not be repeated for credit.

COM 3052 Cultural Studies and Communication (3) AS SPE
Application of theories and methods of Cultural Studies to communication research. Emphasis on critical analysis of processes by which culture is produced, circulated, and negotiated.

COM 3110 Communication For Business and the Professions (3) AS SPE
Identification of communication situations specific to business and the professions. Analysis of variables related to communication objectives and preparation of oral presentations in the form of informational reports, conference management, persuasive communications, interviews, and public hearings.

COM 3120 Organizational Communication (3) AS SPE
A survey of communication concepts which impact upon organizational effectiveness.

COM 3122 Interview Communication (3) AS SPE
A study of communication theory relative to persuasive interviewing with an emphasis on career interview situations.

COM 3413 Communication and Visual Culture (3) AS SPE
COURSE DESCRIPTIONS

EXAMINING THE NATURE AND PRACTICES OF SEEING AS FUNDAMENTAL TO COMMUNICATION WITH SPECIAL EMPHASIS ON CULTURAL AND RHETORICAL IMPLICATIONS OF VISUAL PRACTICES IN AESTHETIC, POLITICAL, AND SOCIAL ARENAS.

COM 4016 Public Memory (3) AS SPE
Exploration of collective memory as public communication. Examines public memory as created and communicated in memorials, museums, mediated history, nostalgia, and story.

COM 4020 Communicating Illness, Grief, and Loss 6ACT (3) AS SPE
PR: COM 2000 with C- or above
Focus on stories of illness, grief, and loss to make sense of these experiences; to understand the cultural and rhetorical influences on how stories are told; and to explore the context of everyday life, romantic relationship, families, institutions, and culture in which they occur.

COM 4021 Family Communication and the End of Life (3) AS SPE
Explores theories and practices of family communication at end-of-life through language, relationships, bioethics, and case analysis techniques.

COM 4022 Health Communication (3) AS SPE
Application of communication theory and research to the health context including provider-patient communication, health information campaigns, and health beliefs and behavior. Special attention to the value issues in health communication.

COM 4030 Women and Communication WRIN 6ACT (3) AS SPE
Examines women's patterns of communication in a variety of contexts. Also offered under Women's Studies.

COM 4050 Globalization and Democratic Discourse (3) AS SPE
Examines rhetoric of globalization and democracy from communication perspectives, especially the discourses of war, terrorism, nationalism, and security.

COM 4104 Communication, Tourism, and Travel (3) AS SPE
Focuses on cultural, experiential, and performative practices and meanings of travel and tourism as sites of communication inquiry.

COM 4124 Communication and Organizational Change (3) AS SPE
An advanced course covering current issues in organizational transformation (e.g., organizational dialogue, learning organizations, reengineering, work teams), and the role communication processes play in such changes.

COM 4128 Integrated Organizational Communication (3) AS SPE
Explores theories, practices, and functions of integrated communications strategies and tactics in organizational contexts. For Communication majors; non-majors by permit only. May not be repeated for credit.

COM 4151 Communication and Working Life in Cont Orgs (3) AS SPE
Explores workers and organizations through socialization, self-presentation, technologies, identity issues, and work-family balance.

COM 4225 Global & Cultural Issues in Health Communication (3) AS SPE
Explores issues in global health, culture, and communication in health care initiatives.

COM 4414 Race and Gender in Popular Film and Television (3) AS SPE
PR: SPC 3544 or COM 3051
Explores representations of race and gender in contemporary TV and film and utilizes feminist and critical race theories to interrogate social inequalities. Majors only. Non-majors by permit only. May not be repeated for credit.

COM 4490 Communication and Love (3) AS SPE
Examines concepts, philosophy, and theories of love in connection with communication skills.

COM 4530 Influencing Public Opinion (3) AS SPE
Explores foundations, history, measurement techniques, and persuasive strategies of public opinion research and practice from rhetorical perspectives.

COM 4702 Communication, Language, and Mental Illness (3) AS SPE
Explores intersection of mental illness and communication as language, talk-in-interaction, and discourse as social practice.

COM 4710 Writing Lives 6ACT (3) AS SPE
Emphasizes writing stories about our lives and the lives of others as a way to understand, cope with and communicate social experiences.

COM 4931 Special Topics in Media Analysis (3) AS SPE
Selects contemporary topics in media, media genres, and forms to examine how social issues are reflected and changed. Majors only; non-majors by permit only. May be repeated for credit as topics change for 9 total credits.

COM 4942 Communication Intern Seminar (3) AS SPE
Seminar provides students with an opportunity to put into practice concepts and skills acquired in their study of communication. Weekly seminar sessions augment intern experience. Application for seminar must be submitted one semester prior to seminar offering.

COM 4958 Communication Senior Capstone CPST (3) AS SPE
PR: COM 2000, SPC 3301, ORI 3004, SPC 2541.
This capstone course for the Communication major features projects linking theory to practice, real world communication situations, and critical analysis of audiences and issues. Senior standing. For majors only.

COM 5930 Topics in Communication Studies (3) AS SPE
Topical issues in communication.
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COP 1930 Special Topics for Information Technology (1-3) EN ESB
Special topics course.

COP 2270 Programming in C for Engineers (3) EN ESB
PR: MAC 2281, MAC 2311 or MAC 2241.
This class prepares students to use the C programming language and the MATLAB environment to develop solutions to small scale scientific and engineering problems.

COP 2510 Programming Concepts (3) EN ESB
PR: MAC 2281 or equivalent.
An examination of a modern programming language emphasizing programming concepts and design methodology.

COP 2512 Programming Fundamentals for Information Technology (3) EN ESB
An introduction to computer programming using a modern high-level language with IT applications. Topics include variables, types, expressions, and assignment, control structures, I/O, functions, and structured decomposition.

COP 2513 Object Oriented Programming for Information Technology (3) EN ESB
PR: COP 2512
An introduction to object oriented programming emphasizing an objects first approach with applications to IT. Objects, methods, and classes are studied in detail. Students design and implement object-oriented programs to solve IT problems.

COP 2930 Special Topics for Information Technology (1-3) EN ESB
Special topics course.

COP 2931 Special Topics for Information Technology (1-3) EN ESB
Special topics course.

COP 3257 JAVA for Experienced Programmers (3) EN ESB
PR: COP 3514 or equivalent.
Program design and development using the JAVA programming language. Comparison of program design in a procedural language (C recommended) versus design in the JAVA language. Application development using advanced programming techniques.

COP 3331 Object Oriented Software Design (3) EN ESB
PR: COP 3514
CPR: CDA 3103
Design of a computer program using an Object-Oriented programming language. Extension of programming knowledge from a procedural language to an object-oriented language. Analysis of program requirements.

COP 3353 User-Level Introduction to Linux for IT (3) EN ESB
PR: COP 2512
Description Introduction to a modern Linux distribution: installation in a desktop-friendly virtualized environment, users and software packages management, usage of the shell for navigation, and text processing command line tools.

COP 3514 Program Design (3) EN ESB
PR: COP 2510 or comparable introductory programming course
The class extends students' programming knowledge by systematically considering the concepts involved in program design and creation. Students will also build upon their previous programming experience by learning to use the C programming language in a networked environment.

COP 3515 Advanced Program Design for Information Technology (3) EN ESB
PR: MAD 2104 and (COP 2513 or COP 2250)
Covers problem solving with an emphasis on the creation of programs to be developed and maintained in a variety of environments from small to large IT organizations. Concepts relating to program efficiency are studied.

COP 3931 Special Topics for Information Technology (1-3) EN ESB
Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.

COP 4020 Programming Languages (3) EN ESB
PR: COP 4530.
An introduction to the specification, design, and analysis of programming languages. Topics include syntax, operational semantics, type systems, type safety, lambda calculus, functional programming, polymorphism, side effects, and objects.

COP 4313 Symbolic Computations in Mathematics 6AMT (3) AS MTH
PR: MAS 3105 and MAP 2302.
Students will write programs to solve problems in various areas of mathematics including calculus and linear algebra with symbolic programming systems such as Maple, Mathematical, or Macsyma.

COP 4365 Software System Development (3) EN ESB
PR: COP 4530.
Analysis, design, and development of software systems using objective methodology with object oriented programming and advanced software development tools (such as integrated development environments).

COP 4530 Data Structures (3) EN ESB
PR: COT 3100 and COP 3331 and CDA 3103
Understand and implement fundamentals of concise data structure and organization for program efficiency, clarity and simplification. Implementation of different data types and structures. Understanding of current data structures. Functional programming concepts will be covered.

COP 4538 Data Structures and Algorithms for Information Technology (3) EN ESB
### COURSE DESCRIPTIONS

**COP 4530 Compiler Design and Construction (3) EN ESB**
PR: COP 3515
This course covers the fundamentals and applications of compiler design and construction. Topics include lexical, syntactic, and semantic analyses; abstract syntax trees; symbol tables; code generation and optimization. Students design and implement a compiler for a simple language.

**COP 4538 Operating Systems (3) EN ESB**
PR: COP 4530
Introduction to operating systems. Concurrent processing, synchronization, and storage management policies.

**COP 4564 Application Maintenance & Debugging for IT (3) EN ESB**
PR: COP 3515
Addresses the software-development cycle and code maintenance, as well as software correctness. Various code testing strategies and debugging methods are presented along with tools for software maintenance and debugging.

**COP 4600 Operating Systems (3) EN ESB**
PR: COP 4530.
Introduction to systems programming. Design of operating systems. Concurrent processing, synchronization, and storage management policies.

**COP 4610 Operating Systems for Information Technology (3) EN ESB**
PR: COP 4538
This course is an introduction to operating systems using an algorithmic approach. Topics include processes, parallelism, memory management, resource allocation, file systems, remote file systems, virtual machines, and virtualization.

**COP 4610L Operating Systems Laboratory for Information Technology (1) EN ESB**
PR: EEL 4854
Implementation and evaluation of models discussed in the lecture part of the course. Students implement operating system algorithms in stand-alone mode, and modify real operating system code. Students implement and test algorithms in a lab environment.

**COP 4620 Compilers (3) EN ESB**
PR: COP 4530
Introduction to techniques for compiling software; lexical, syntactic, and semantic analyses; abstract syntax trees; symbol tables; code generation and optimization.

**COP 4656 Software Development for Mobile Devices (3) EN ESB**
PR: COP 4530
This course covers software development for mobile devices, mainly cellular phones. The primary goal of the course is to teach students how to design, develop, and deploy complete market-ready applications for mobile devices.

**COP 4703 Database Systems for Information Technology (3) EN ESB**
CR: COP 4538
Database management systems are presented, covering relational, CODASYL, network, hierarchical, and object-oriented models. Backups and database server admin are covered. Best practices for information management are covered.

**COP 4710 Database Design (3) EN ESB**
PR: COP 3331
CPR: COP 4530
This course covers the fundamentals and applications of database management systems, including data models, relational database design, query languages, and web-based database applications.

**COP 4814 Web Services (3) EN ESB**
The Web services model, based on the Open Standards of SOAP, WSDL, and UDDI, is studied and applied.

**COP 4816 XML Applications (3) EN ESB**
This course introduces extensible Markup Language (XML), a technology for exchanging structured information over the Internet, and examines a sampling of its many applications.

**COP 4834 Data-Driven Web Sites (3) EN ESB**
This course builds on students’ knowledge of Web development and databases by adding server-side scripting using the PHP language to interact with the mySQL database system to build transaction processing and report generating systems over the Internet.

**COP 4883 Java Programming for Information Technology (3) EN ESB**
PR: COP 4538
This course covers object-oriented programming in Java and Java foundation classes. Topics include classes, inheritance, interfaces, graphical user interfaces (GUIs), event-driven programming, exception handling, and networking.

**COP 4930 Information Technology Seminar (1-3) EN ESB**
A survey of current Information Technology topics are covered to keep the IT student abreast of the variety of domains associated with their major. Speakers with a wide variety of IT experience will give seminars to senior IT students.

**COP 4931 Special Topics for Information Technology (1-3) EN ESB**
Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.

**COT 3100 Introduction to Unix and C (3) EN ESB**

**COT 4115 Advanced Discrete Structures with Cryptology (3) EN ESB**
PR: COP 4530, COP 3100.
Advanced topics in discrete mathematics: number theory, groups, rings and fields, finite fields, and...
combinatorics, as applied to computer systems. Theoretical application of mathematic concepts to coding theory and cryptology.

COT 4210 Automata Theory and Formal Languages (3) EN ESB
PR: COT 3100, COP 4530.
Introduction to the theory and application of various types of computing devices and the languages they recognize.

COT 4400 Analysis of Algorithms (3) EN ESB
PR: COT 3100, COP 4530.
Design principles and analysis techniques applicable to various classes of computer algorithms frequently used in practice.

COT 4521 Computational Geometry (3) EN ESB
PR: COP 4530, COT 4400.
Computational geometry is the study of efficient algorithms to solve geometric problems. Topics covered include Polygon Triangulations, Polygon Partitioning, Convex Hulls, Voronoi Diagrams, Arrangements, Search and Intersection, and Motion Planning.

CPO 2002 Introduction to Comparative Politics (3) AS GIA
Comparison and analysis of representative European and non-Western political systems.

CPO 4034 Politics of the Developing Areas GCPC (3) AS GIA
An analysis of the ideologies, governmental structures, and political processes of selected nations of the non-Western world.

CPO 4930 Comparative Government and Politics of Select Areas (3) AS GIA
Studies political systems with common elements. Structure, process, domestic and foreign politics, and regional roles are considered.

CPO 5934 Selected Topics in Comparative Politics (3) AS GIA
Studies specific substantive areas in Comparative Politics, such as political economy or the politics of specific countries or regions.

CRW 2100 Narration and Description 6ACT (3) AS ENG
A study of narrative and descriptive techniques in prose. By making the student sensitive to language usage, the course is designed to bridge the gap between expository writing and imaginative writing.

CRW 3111 Form and Technique of Fiction 6ACT (3) AS ENG
A study of short narrative forms such as the anecdote, tale, character sketch, incident, monologue, epistolary story, and short story as they have been used in the development of fiction and as they exist today. Will not count toward the English major.

CRW 3112 Fiction I 6ACT (3) AS ENG
PR: CRW 2100 or CRW 3111.
An introduction to fiction writing, beginning with a practical study of the various elements of fiction and proceeding through the many processes of revision to arrive at a completed work of art.

CRW 3121 Fiction II 6ACT (3) AS ENG
PR: CRW 2100 or CRW 3111, CRW 3112.
A fiction workshop which provides individual and peer guidance for the student's writing and which encourages the development of critical skills.

CRW 3311 Form and Technique of Poetry (3) AS ENG
An examination of the techniques employed in fixed forms from the couplet through the sonnet to such various forms as the rondel, ballad, villanelle, sestina, etc. Principles in the narrative, dramatic, and lyric modes are also explored.

CRW 3312 Poetry I (3) AS ENG
PR: CRW 3311.
An introduction to poetry writing utilizing writing exercises employing poetic language and devices; the exercises progress to the writing of both rhymed and unrhymed metrical and non-metrical forms.

CRW 3321 Poetry II (3) AS ENG
PR: CRW 3311, CRW 3312.
A poetry workshop which provides individual and peer guidance for the student's writing and which encourages the development of critical skills.

CRW 4120 Fiction III (3) AS ENG
PR: CRW 2100 or CRW 3111, CRW 3112, CRW 3121.
An advanced fiction workshop in which works may be carried over from CRW 3121 or longer forms such as the novel may be begun.

CRW 4320 Poetry III (3) AS ENG
PR: CRW 3311, CRW 3312, CRW 3321.
An advanced poetry workshop in which students are expected to create works exhibiting a firm knowledge of the principles explored in the preceding courses.

CRW 4930 Selected Topics in Creative Writing (1-3) AS ENG
PR: 12 hours of CRW courses
The focus of the course will be governed by student demand and instructor interest. Topics to be covered may include writing the literary essay, writing in mixed genres, and utilizing popular conventions in serious works. May be taken twice for credit with different topics.

CTS 4337 Linux Workstations System Administration for IT (3) EN ESB
PR: COP 3353
Students learn to install, configure, tune, and administer a Linux system. Administration focuses on managing user accounts, file systems, and processes. System commands are presented and students learn to write basic scripts.

CTS 4805 Web Development Tools (3) EN ESB
This course builds on web design concepts and extends them to build and maintain complete Web Sites using the current de facto industry-standard integrated web site development environment/applications.
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWR 4202</td>
<td>Hydraulics (3) EN EGX</td>
<td>PR: EGN 3353. Fundamental and applied aspects of pipe flow, free surface flow, and unsteady flow for hydraulic systems.</td>
</tr>
<tr>
<td>CWR 4540</td>
<td>Water Resources Engineering I (3) EN EGX</td>
<td>PR: CWR 4202. A study of the engineering principles involved in sustaining and managing the quantity and quality of water available for human activities with particular emphasis on surface water and ground water hydrology.</td>
</tr>
<tr>
<td>CWR 4541</td>
<td>Water Resources Engineering II (3) EN EGX</td>
<td>PR: EGN 3353, CWR 4202. The course is intended to be a technical elective for students specializing in water resources or environmental engineering. Material in the course covers subsurface hydrology including both soil vadose zone processes and the ground water flow.</td>
</tr>
<tr>
<td>CWR 4812</td>
<td>Capstone Water Resources/Environmental Design CPST (3) EN EGX</td>
<td>PR: ENV 4001, CWR 4540 CR: ENV 4417, CEG 4012 or TTE 4005. A capstone water resources design experience for seniors in Civil and Environmental Engineering. A design-oriented course to design both industrial and domestic water treatment and water transport systems and hydraulic systems.</td>
</tr>
<tr>
<td>DAA 2100</td>
<td>Fundamentals Of Modern Dance (2) FA DAN</td>
<td>A studio class for students with a serious interest in concert modern dance. Emphasis upon correct alignment, development of strength, rhythmic and dynamic activity, as well as spatial and locomotor patterns. May be repeated up to six credit hours.</td>
</tr>
<tr>
<td>DAA 2104</td>
<td>Modern Dance I (2) FA DAN</td>
<td>A studio class for students with a serious interest in concert modern dance. Further emphasis on correct alignment, development of strength, rhythmic and dynamic activity as well as spatial and locomotor patterns. May be repeated up to 8 credit hours.</td>
</tr>
<tr>
<td>DAA 2200</td>
<td>Fundamentals Of Ballet (2) FA DAN</td>
<td>A studio class for students with a serious interest in Ballet. Emphasis on correct alignment of the body and a progressive development of positions and barre exercises as well as the application of combinations in center work using classical Ballet vocabulary (French terms). May be repeated.</td>
</tr>
<tr>
<td>DAA 2204</td>
<td>Ballet I (2) FA DAN</td>
<td>A studio class for students with a serious interest in Ballet. Further emphasis on correct alignment of the body and a progressive development of positions and barre exercises as well as the application of combinations in center work using classical Ballet vocabulary (French terms). May be repeated.</td>
</tr>
<tr>
<td>DAA 2250</td>
<td>Fundamentals Of Jazz Dance (2) FA DAN</td>
<td>A basic movement course in Jazz Dance involving dance vocabulary, alignment, styles and simple rhythmic patterns. May be repeated up to 6 credits.</td>
</tr>
<tr>
<td>DAA 2504</td>
<td>Jazz Dance (2) FA DAN</td>
<td>PR: DAA 2500 A technique class for the intermediate level dancer to become acquainted with the dance styles and forms of musical theatre and concert jazz dance. Emphasis is on highly stylized movement with a strong rhythmic base. May be repeated.</td>
</tr>
<tr>
<td>DAA 2570</td>
<td>Jazz Theatre Dance (3) FA DAN</td>
<td>PR: DAA 2504 Further emphasis on projection, phrasing, rhythmic patterns and dynamics. Solo and ensemble studies leading to performance. May be repeated up to 6 credits.</td>
</tr>
<tr>
<td>DAA 3108</td>
<td>Modern Dance II (1-3) FA DAN</td>
<td>Study of principles of modern dance technique. Practical work in exercises and movement phrases, utilizing changing rhythms and dynamics. Concert and performance attendance required. May be repeated.</td>
</tr>
<tr>
<td>DAA 3109</td>
<td>Modern Dance III (1-3) FA DAN</td>
<td>Continuation of DAA 3108. Further emphasis on style and phrasing. Work on projecting mood and quality by dancing and rehearsing in more advanced choreography, leading to performance. May be repeated.</td>
</tr>
<tr>
<td>DAA 3208</td>
<td>World Dance Topics (1) FA DAN</td>
<td>A technique class for the intermediate level dancer to become acquainted with the dance styles and forms of musical theatre and concert jazz dance. Emphasis is on highly stylized movement with a strong rhythmic base. May be repeated.</td>
</tr>
<tr>
<td>DAA 3214</td>
<td>Ballet II (1-3) FA DAN</td>
<td>Positions and barre exercises. Emphasis on correct alignment of the body and the application of simple step combinations in centre work. The use of ballet vocabulary (French terms). Material is covered almost totally as practical work in class for concerts and performances. May be repeated.</td>
</tr>
<tr>
<td>DAA 3246</td>
<td>Dance Technique (1) FA DAN</td>
<td>PR: DAA 3208 Intensification of barre exercises for the development of strength and form. Application of phrasing and movement. Material covered as practical work in class for concerts and performances. May be repeated.</td>
</tr>
<tr>
<td>DAA 3395</td>
<td>World Dance Topics (1) FA DAN</td>
<td>Students will experience fundamental knowledge of dance representing various world cultures. In addition to a dance/movement component, a connection will be made to historical, spiritual/religious, ethnological and environmental aspects. May be repeated.</td>
</tr>
</tbody>
</table>
indigenous aspects of people involved in dance as a cultural experience. May be repeated.

**DAA 3614 Choreography I (2) FA DAN**
CR: DAA 3108 or DAA 3214
Focus is upon movement invention and concepts of time, space and force. Integration of basic musical foundations and compositional structures, i.e. ABA and Canon, theme/variations. Research of various musical genres, rhythms and styles.

**DAA 3615 Choreography II (2) FA DAN**
PR: DAA 3614
This course focuses on the use of choreographic devices/tools for movement inspiration, improvisation for generating movement, creating meaning, and music and its relation to the art form of dance (i.e. meter, tempo, rhythm, and style).

**DAA 3624 Dance Improvisation (2) FA DAN**
For majors and non-majors. Exploring various methods of spontaneously creating dance movement in individual and group situations. Structured and unstructured approaches will be explored. May be repeated.

**DAA 3654 Repertory I (1) FA DAN**
The development and performance of solo and/or group dances.

**DAA 3684 Repertory II (1) FA DAN**
The development and performance of solo and/or group dances.

**DAA 3686 Junior Performance Project (1) FA DAN**
Required for junior dance majors. Involves rehearsal and performance of work presented by a senior dance major in the dance program. Open to all university students proficient in dance techniques and concurrently enrolled in technique courses. Repeatable.

**DAA 4110 Modern Dance IV (1-4) FA DAN**
Intense work on the growth of personal performance styles. Equal emphasis will be given to training the body in the development of technical excellence. May be repeated.

**DAA 4211 Ballet IV (1-3) FA DAN**
Perfecting the execution of barre work. Intensification of centre work. More stress on aesthetic quality of movement and phrasing. Students expected to be proficient in pointe work. Outside projects, concerts, and performances are required. May be repeated.

**DAA 4616 Choreography III (2) FA DAN**
PR: DAA 3615
CR: DAA 3109 or above, or DAA 3209 or above
Course emphasis is primarily on group choreography, along with a final project where students work with incorporating text and movement. Continuation of the study of meter, tempo, rhythm, and style in music, as well as dynamics and phrasing.

**DAA 4617 Choreography IV (2) FA DAN**
PR: DAA 4616
The focus of this course is taking choreography beyond the stage, structured around two main projects: creating a site-specific work, and filming/editing a dance video project, including creating an audio score. Introduction to music editing.

**DAA 4687 Performance (1-2) FA DAN**
Open to all university students proficient in dance techniques and concurrently enrolled in Technique. Involves rehearsal and performance of works presented by the department. May be repeated.

**DAA 4694 Senior Choreography Project (1-5) FA DAN**
The creation of an original group work and solo within the senior’s major concentration-ballet or modern. To be performed and presented with the concurrence of a faculty advisor.

**DAA 4930 Dance Studies (1-3) FA DAN**
Dance Major status. Individual study to extended competency in technique and performance of Dance through participation in special workshops.

**DAE 4340 Dance Pedagogy: Secondary Curriculum (3) FA DAN**
This course is designed to meet the needs of students in Dance Education to understand the scope and sequence of dance curriculum design and teaching methods appropriate to the secondary student.

**DAE 4394 Senior Seminar In Dance Education (2) FA DAN**
CR: DAE 4940
This course represents a synthesis of the teacher candidates courses and is required concurrently with the internship.

**DAN 2100 Introduction To Dance 6ACT (3) FA DAN**
For majors and non-dance majors, a study of the art and language of dance through lectures, discussions, concert attendance, and studio practice. Designed to develop awareness and insight of this art form through discussion, observation, writing, and movement experience.

**DAN 2160 Entry Seminar (2) FA DAN**
This is a study of dance-related career opportunities through lectures, assigned reading and video viewing. This course will aid majors in understanding dance as an aesthetic art form through discussion and critical evaluation.

**DAN 3584 Technical Theatre in Dance (2) FA DAN**
An introductory course in technical production including lighting, sound, scenic, stage management/production and front of house. Requires load-in hours/crew assignments during USF Fall and Spring Dance Concerts.

**DAN 3614 Music For Dance (2) FA DAN**
Development of musical skills in movement studies. Continued study of the inter-relationship of music and dance through movement experiences, observations, video, and writing.

**DAN 3615 Music For Dance II (2) FA DAN**
PR: DAN 3614
Development of practical music skills in relation to dance. Continued problems in rhythmic materials
and the relationship of music forms to dance.

Elements within historical context.

DAN 3714 Dance Kinesiology (3) FA DAN
This course will give the student an understanding of basic human anatomy and how it functions in relation to movement, injury prevention, teaching and performance. Individual structural differences and how these affect movement potential will also be studied. There will be an emphasis on the kinesiological analysis of movement with the goal of increased efficiency, enhanced performance and injury prevention.

DAN 4134 Ballet History WRIN 6ACT (3) FA DAN
This is a lecture course in dance history stemming from its roots in Renaissance court dance through the mid-20th century focusing primarily on the history of ballet as an art form.

DAN 4135 20th Century Dance History CPST HHCP (3) FA DAN
Designed for majors and non-majors, this course will trace the development of dance as an art form in the 20th Century. It is designed to develop awareness and insight through lecture, discussion, video, observation and writing. Students will be required to attend at least two dance performances.

DAN 4162 Research in Dance (2) FA DAN
Course will introduce basic research methodologies for conducting research in the dance genre, and will serve the student in preparing for future research based study in the field of dance. Students will conduct library, internet, and field research.

DAN 4180 Dance Senior Seminar (2) FA DAN
A study of career opportunities in performance, teaching, research, design, and choreography. To aid majors in self-appraisal as artists and develop methods to further their potential in the professional world. Discussion, critical evaluation and projects.

DAN 4434 Laban Movement Analysis (3) FA DAN
Specialized study in movement theories, body alignment, and movement patterns focusing on the scientific and analytical basis of movement in dance with consideration for developmental processes, technique, creative expression, and performance.

DAN 4906 Directed Study (1-5) FA DAN
Independent studies in the various areas of Dance. Must receive approval prior to registration. May be repeated.

DAN 4930 Selected Topics In Dance (1-3) FA DAN
The content of the course will be governed by student and instructor interest. May be repeated by majors.

DEP 2004 The Life Cycle (3) BC GEY
An examination of individuals and the physical, cognitive, personality, and social changes which occur throughout the entire life span.

DEP 3103 Child Psychology (3) AS PSY
Developmental and psychosocial aspects of childhood, including hereditary, maturational, psychological, and social determinants of child behavior.

DEP 4053 Developmental Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
Survey of methods, empirical findings, and theoretical interpretations in the study of human development.

DEP 4220 Autism Spectrum Disorders (3) AS PSY
PR: PSY 3213
Overview of research; information about causes of disorder; historical and philosophical views; biological & psychological research; efforts to help individuals live productive & independent lives; recent controversies; integrative approach to treatment.

DIE 3310 Community Nutrition (3) PH CFH
PR: HUN 2201
An introduction to federal, state, and local nutrition intervention programs and their impacts. Emphasis is placed on diagnostic tools used in community nutrition and programs as well as methods used to address community nutrition issues. Course is not restricted to majors. It is not repeatable for credit.

DIG 2111C Digital Drawing (3) FA ART
Hands-on exploration of digital vector and raster based illustration and design. Students synthesize traditional drawing and painting skills with digital tools. Includes study of digital imaging, drawing systems, color theory, and idea generation.

DIG 2430 Visual Storytelling (3) FA ART
This is an introductory course in digital visual storytelling for animation and film. Students explore story development, storyboarding, and the creation of animations. Includes study of preproduction and conventions of cinematography.

DIG 3306C 3D Animation (3) FA ART

DIG 3323C Digital Sculpture (3) FA ART
Hands-on exploration of high-polygon digital sculpting for art and design. Students digitally sculpt figures and organic forms for 2D images, animation, 3D environments, and digital fabrication. Includes study of history, theory, and practices.

EAB 471S Supervised Practicum and Field Experience in Applied Behavior Analysis (1-6) AS PSY
PR: PSY 4933 with a grade of B or better
Field experience in Behavior Analysis in applied settings. Under the supervision, involves the design, implementation and evaluation of behavior analysis methods in applied settings. Includes...
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both field practicum and didactic components. May be repeated for a maximum of 6 hours.

EAP 1600 Listening & Speaking for International Students (3) AS WLE
PR: English language proficiency test score of 5.0 IELTS score with no sub-scores lower than 4.5 or the equivalent 50 iBT TOEFL score; OR successful completion of Academic English Level 3 in the English Language Program at USF. The goal of this course is to help international students develop their English language abilities in speaking, listening, pronunciation and presentations for academic studies.

EAP 1660 Grammar for International Students (3) AS WLE
PR: English language proficiency test score of 5.0 IELTS score with no sub-scores lower than 4.5 or the equivalent 50 iBT TOEFL score; OR successful completion of Academic English Level 3 in the English Language Program at USF. The goal of this course is to help international students learn to use grammatical structures in spoken and written academic contexts.

EAP 1680 Essential Academic English Skills (6) AS WLE
PR: English language proficiency test score of 5.0 IELTS score with no sub-scores lower than 4.5 or the equivalent 50 iBT TOEFL score; OR successful completion of Academic English Level 3 in the English Language Program at USF. The goal of this course is to help international students develop reading, writing, lecture-listening and note-taking skills needed for university study while learning about events in American history and their impact on American culture.

EAP 1850 English for International Students I (6) AS WLE
This course supports the development of academic English for international students, with an emphasis on processing, analyzing, and integrating information from academic texts and lectures, and applying pragmatic skills in university interactions.

EAP 1851 English for International Students II (6) AS WLE
This course supports the development of academic English for international students, with an emphasis on researching and producing papers and presentations in a variety of academic genres with appropriate academic language use.

EAS 4121 Hydro and Aerodynamics (3) EN EGR
PR: EML 3701, MAP 2302. Advanced fluid dynamics, ideal and viscous flows, applications to flow around immersed bodies.

EBD 4011 Introduction to Behavior Disorders (3) ED TAL
PR: EEX 4012, or equivalent Survey of emotional, behavioral and social disorders in children and youth. History of the field, definitions, classifications, theoretical approaches, intervention techniques, classroom management, service delivery models, trends and issues.

EBD 4909 Directed Study: Behavior Disorders (1-3) ED TAL
To extend competency in teaching field.

EBD 4941 Undergraduate Supervised Practicum in Behavior Disorders (1-6) ED TAL
PR: EEX 4012 Supervised field experience in assessment, classroom management, and clinical teaching with children who have emotional and behavioral disabilities.

ECH 3002 Introduction to Chemical & Biomedical Engineering (3) EN ECH
PR: PHY 2048, CHM 2046, MAC 2282 OR MAC 2312 Introduce chemical and biomedical engineering careers through discussion, videos, industrial/academic speakers, problems by virtual experiments to gather data for modeling and analysis with software tools.

ECH 3023 Material and Energy Balances (3) EN ECH
PR: PHY 2049, MAC 2283, CHM 2046, ECH 3002, ECH 3854 CPR: EGN 3343 Integration of previous knowledge into the definition of reactors and separation processes, through the hierarchical use of material balance, phenomenological and energy balance equations. Representation of streams as arrows and processes as black boxes in Box Flow Diagrams, BFD. Application of degree of freedom analysis.

ECH 3240L Chemical Engineering Laboratory I (3) EN ECH
CPR: ECH 4418 and ECH 4267 Laboratory experiments in mass and energy balances, transport phenomena and chemical engineering thermodynamics. Accompanied by lectures on safety, data analysis, obtaining information, practice of chemical engineering and professional preparation.

ECH 3266 Transport Phenomena I (3) EN ECH
PR: EGN 3343, ECH 3023, MAP 2302 OR EGN 3433 Introduce principles of momentum, mass and heat transport. Mathematical modeling of transport in one dimension and obtain solutions for fluxes and profiles. To utilize them to obtain engineering quantities.

ECH 3702 Instrument Systems I (3) EN ECH
PR: MAP 2302 or EGN 3433, ECH 3343 and ECH 3023 Basic concepts of electric circuits and their applications. Resistors, capacitors, inductors, logic operations, junction devices. Programmable Logic controllers, ladder diagrams.

ECH 3854 Chemical & Biomedical Engineering Computations (3) EN ECH
PR: PHY 2048, CHM 2046, MAC 2282 OR MAC 2312
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ECH 4123 Chemical Engineering Thermodynamics
(3) EN ECH
PR: ECH 3023, EGN 3343, MAP 2302 or EGN 3433
Correlation of thermodynamic properties of real systems and solutions. Description of multicomponent, multiphase systems in equilibrium. Applications to separation processes and reactor design.

ECH 4241L Chemical Engineering Laboratory II (3) EN ECH
PR: ECH 3240L, ECH 4504, and ECH 4418
Laboratory experiments in reaction engineering, process control, heat and mass transfer. Lectures on theoretical concepts explored, sensors and data acquisition, data analysis, uncertainty analysis and experimental design.

ECH 4244L Chemical Engineering Lab III (1) EN ECH
PR: ECH 4415C, ECH 4243L
Chemical Engineering Processes laboratory experiments: fluid flow, heat transfer, reacting systems, and process control. Majors only. Not repeatable for credit.

ECH 4264 Transport Phenomena (4) EN ECH
PR: MAP 2302, EGN 3343

ECH 4265C Mass Transfer Operations (4) EN ECH
PR: ECH 4845, ECH 4264, ECH 4123
Integration of phase equilibria with the principles of fluid mechanics, heat and mass transfer in the description of separation processes. Selection of the number of stages and limiting operating conditions in cascades -- NTU and HTU. Sizing of partial condensers and pressure differential in columns. Transfer to single particles.

ECH 4267 Transport Phenomena II (3) EN ECH
PR: ECH 3266 and ECH 4123 and ECH 4846
Introduce application of unsteady and steady state modeling in mass, momentum, and heat transfer. Explain design based on transport processes for equipment such as heat exchangers, packed beds, mixing tanks etc.

ECH 4323 Process Dynamics and Control (3) EN ECH
PR: ECH 4418

ECH 4415C Reaction Engineering (4) EN ECH
PR: CHM 2210, ECH 4265C
Integration of chemical equilibrium and kinetics, heat transfer and fluid mechanics into the hierarchical description of reacting systems. Analysis and selection of operating conditions and contacting models. Sizing. Restricted to department majors.

ECH 4418 Separation Processes (3) EN ECH
PR: ECH 3266 and ECH 4123 and ECH 4846
CPR: ECH 4267
Design of stage-wise and continuous separation processes for gas absorption, distillation, adsorption, liquid-liquid extraction, membrane separations. Utilization of process simulators and design case studies.

ECH 4504 Kinetics and Reaction Engineering (3) EN ECH
PR: CHM 2210
CPR: ECH 4418, ECH 4267
The course introduces design of commercial chemical reactors, emphasizing synthesis of chemical kinetics and transport phenomena.

ECH 4605 Product and Process Systems Engineering (3) EN ECH
CPR: ECH 4418, ECH 4267, and ECH 4504

ECH 4615 Product and Process Design CPST (3) EN ECH
PR: ECH 4605, ECH 4504, ECH 4418
CPR: ECH 4323C
Synthesis and analysis of economically feasible and environmentally acceptable chemical processing routes; Design of safe chemical production and treatment facilities; Chemical product design; Computer Aided-Design; Case studies and Design Project.

ECH 4644 Process Equipment and Safety (3) EN ECH
PR: ECH 4264, ECH 4123
CPR: ECH 4265
Design, sizing, selection and preparation of equipment specifications for the process industry in accordance with process safety management guidelines and OSHA requirements.

ECH 4846 Numerical Methods in Chemical Engineering (3) EN ECH
PR: ECH 3023, EGN 3343, EGN 3433 or MAP 2302.
Computer usage in chemical engineering. Use of computer methods to solve chemical engineering problems. Solution of linear and nonlinear algebraic and differential equations that arise in chemical engineering. Optimization methods.

ECH 4905 Independent Study (1-4) EN ECH
Specialized independent study determined by the student's needs and interests. Students must have contract with instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECH 5944</td>
<td>Industry Internship (1-6) EN ECH</td>
<td>1-6</td>
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<tr>
<td>ECH 5931</td>
<td>Special Topics IV (1-4) EN ECH</td>
<td>1-4</td>
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<tr>
<td>ECH 5945</td>
<td>Chemical Engineering Industrial Internship (1-6) EN ECH</td>
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<tr>
<td>ECO 1000</td>
<td>Basic Economics CASB (3) AS ECN</td>
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<tr>
<td>ECO 2013</td>
<td>Economic Principles (Macroeconomics) CASB (3) AS ECN</td>
<td>3</td>
<td></td>
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<tr>
<td>ECO 2023</td>
<td>Economic Principles (Microeconomics) (3) AS ECN</td>
<td>3</td>
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<tr>
<td>ECO 2052</td>
<td>Analytical Tools for Economists (3) AS ECN</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**COURSE DESCRIPTIONS**

**ECH 4931 Special Topics in Chemical Engineering II (1-3) EN ECH**
- Production, bioreactor design, and transport processes in biosystems.

**ECH 4936 Undergraduate Seminar (1) EN ECH**
- CPR: ECH 3023

**ECH 4944 Industry Internship (1-6) EN ECH**
- PR: ECH 3023
- Individual study as practical chemical and biomedical engineering related work under industrial supervision with a faculty approved outline and end-of-semester report.

**ECH 5320 Chemical Process Engineering I (4) EN ECH**
- The course presents the principles of mass balances, classical thermodynamics, phase equilibria, energy balances, and psychrometrics. The student will learn by doing many case studies. Computer software will be used to obtain solutions to many problems.

**ECH 5321 Chemical Process Engineering II (4) EN ECH**
- Basic concepts of fluid mechanics, including viscous fluids, pipe flow with minor losses, simple fluid machinery, momentum and external flow. Steady state conductive and convective heat transfer. Not available for chemical engineering students.

**ECH 5322 Chemical Process Engineering III (4) EN ECH**
- Basic concepts of fluid phase equilibrium, chemical equilibrium, separation processes, and chemical reactors. Not available for chemical engineering students.

**ECH 5324 Automatic Process Control II (3) EN ECH**
- PR: ECH 4323C
- The course covers the root locus and frequency response methods to study stability of control loops. The techniques of ratio, cascade, feed forward, selective, override, and multi-variable control techniques are discussed in detail and shown how to utilize to design control systems. z-transforms and discrete controllers including PID, Dahlin and deadline compensation.

**ECH 5327 Chemical Process Control (4) EN ECH**
- Basic concepts of feedback control, process dynamics, process controllers (PID) including tuning, control loop stability, cascade, ratio, selective, override, feedforward, and multivariable control. Not available for chemical engineering students.

**ECH 5740 Theory and Design of Bioprocesses (3) EN ECH**
- Introduction to microbiology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems.

**ECH 5747C Selected Topics in Chemical Engineering Biotechnology (1-3) EN ECH**
- Selected topics in engineering in biotechnology, including cell separation technology, immobilized enzymes and cells, food engineering, biohazardous waste, and bioseparations.

**ECH 5748 Selected Topics in Biomedical Engineering (1-3) EN ECH**
- Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems.

**ECH 5785 Sustaining the Earth: An Engineering Approach (3) EN ECH**
- An approach of global perspective on ecological principles revealing how all the world’s life is connected and sustained within the biosphere and how engineering provides the tools to design solutions engaging materials science & environmental ethics.

**ECH 5786 Green Engineering (3) EN ECH**
- Synthesis and design of green chemical, biological and energy conversion processes and products. Environmental impact analysis; green chemistry and materials; life cycle analysis; industrial ecology; systematic methods and real-life examples.

**ECH 5930 Special Topics III (1-4) EN ECH**

**ECH 5931 Special Topics IV (1-4) EN ECH**

**ECH 5945 Chemical Engineering Industrial Internship (1-6) EN ECH**
- Individual study as practical engineering work at an industrial facility or laboratory under the supervision of a faculty member interacting with the sponsoring industrial facility or laboratory.

**ECO 1000 Basic Economics CASB (3) AS ECN**
- Survey of economic principles and issues. Scarcity, choice, markets, prices, the monetary system, unemployment, inflation, international trade and finance.

**ECO 2013 Economic Principles (Macroeconomics) CASB (3) AS ECN**
- ECO 2013 introduces students to basic economic terminology, definitions and measurements of macroeconomic data, simple macroeconomic models, fiscal and monetary policy, and international macroeconomic linkages.

**ECO 2023 Economic Principles (Microeconomics) (3) AS ECN**
- Introduction to the theory of price determination. How an economy decides what to produce, how to produce, and how to distribute goods and services.

**ECO 2052 Analytical Tools for Economists (3) AS ECN**

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605
Mathematical tools required for the study of undergraduate economics. Topics include algebra, graphing, and basic differential and integral calculus required for students to succeed in undergraduate economics courses.

**ECO 2935 Selected Topics In Economics (1-3) AS ECN**
Topics selected by department. May be repeated if topics vary.

**ECO 3101 Intermediate Price Theory (3) AS ECN**
PR: ECO 2023 and MAC 2233 or MAC 2311 or equivalent.
The price system and allocation of scarce resources between competing uses. May not receive credit for both ECP 3703 and ECO 3101.

**ECO 3203 Intermediate Macroeconomics (3) AS ECN**
PR: ECO 2013 and ECO 3101 or ECP 3703 with a grade of D.
Determination of income, employment, prices, and interest rates. Aggregate demand and aggregate supply.

**ECO 3622 American Economic History (3) AS ECN**
Growth and evolution of American economic institutions from Colonial times to the present.

**ECO 3703 International Economics (3) AS ECN**
The price system and allocation of scarce resources between competing uses. May not receive credit for both ECP 3703 and ECO 3101.

**ECO 3703 International Economics (3) AS ECN**
The role of international trade in the U.S. economy. Gains from trade, balance of payments, exchange rate determination, balance of payments stability, and international commercial policy.

**ECO 4105 Advanced Price Theory (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of B or better
An advanced survey of special topics in microeconomics: borrowing and saving, decision making under uncertainty, markets for capital and labor, game theory, production and exchange efficiency, social welfare, and efficiency consequences of market and non-market allocation.

**ECO 4201 Advanced Macroeconomic Theory (3) AS ECN**
PR: ECO 3203 with a grade of B or better
An advanced analysis of a particular topic or topics in macroeconomics. Areas of study include the theories of money, growth, and business cycles. Discussions of how such theories accord with the data are also presented.

**ECO 4270 Economic Growth (3) AS ECN**
PR: ECO 3101 or ECP 3703.
This course provides an introduction to the theory of economic growth, the process whereby the level of real output per capita increases over time. Emphasis is on the role of factor accumulation and productivity growth and their underlying fundamentals.

**ECO 4303 History of Economic Thought (3) AS ECN**

**ECO 4323 Radical Political Economy (3) AS ECN**
PR: ECO 1000 or ECO 2013 or ECO 2023.
The radical (left) and Marxist schools of thought in economics. Application of radical theory to problems of advanced capitalist and socialist societies.

**ECO 4400 Game Theory and Economic Applications (3) AS ECN**
This course is an introduction to game theory, the study of strategic behavior among parties having opposed, mixed or similar interests.

**ECO 4401 Introduction to Mathematical Economics (3) AS ECN**
PR: ECO 2013 and ECO 2023, and MAC 2241 or MAC 2233.
Mathematical models of optimizing behavior and economic equilibrium.

**ECO 4421 Introduction to Econometrics (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a minimum grade of C-.
Survey of basic econometric techniques. Regression analysis employed to estimate consumption, investment, demand, cost, and production functions. Examines problems of autocorrelation, heteroscedasticity, multicollinearity, and specification errors.

**ECO 4504 Public Finance (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of B or better.

**ECO 4704 International Trade and Policy (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of C or better.
Advanced analysis of international trade theory and commercial policy, international economic integration, multinational enterprise.

**ECO 4713 International Macroeconomics (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of C or better.
Advanced analysis of international macroeconomic relationships. Foreign exchange market, international monetary system balance of payments.

**ECO 4905 Independent Study (1-3) AS ECN**
Specialized independent study determined by the student's needs and interests. May be repeated up to 6 hours.

**ECO 4914 Independent Research (1-3) AS ECN**
Individual study contract with instructor and department chairperson required. The research
project will be mutually determined by the student and instructor. May be repeated up to 6 hours.

**ECO 4935 Selected Topics in Economics (1-3) AS ECN**
Topics to be selected by the instructor or instructors on pertinent economic issues.

**ECO 4970 Economics Honors Thesis (3) AS ECN**
This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

**ECP 3125 Economics of Inequality (3) AS ECN**
PR: ECO 1000 or ECO 2013 or ECO 2023 or equivalent
Economic facts, theories and policies concerning income inequality, poverty and discrimination in the U.S. economy and elsewhere in the world.

**ECP 3201 Economics of Women and Work (3) AS ECN**
PR: ECO 1000 or ECO 2013 and ECO 2023
Survey of research on women, men and work in the labor market and the household. Focuses on the economic status of women. Includes historical perspective, examination of the family as an economic unit, changing work roles, and gender differences in occupation and earnings.

**ECP 3203 Labor Economics (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of C or better
Determinants of wage and employment levels; occupational, industrial and geographical wage differentials; union and public policy effects on labor markets; the economics of discrimination; inflation, and unemployment.

**ECP 3302 Environmental Economics (3) AS ECN**
PR: ECO 2023
An economic analysis of environmental issues. The economics of resource use and pollution control are examined using the concepts of externalities, cost-benefit analysis, public goods, and property rights.

**ECP 3403 Industrial Organization (3) AS ECN**
PR: ECO 3101 or ECP 3703
Behavior of firms and market structure when the standard assumption of perfect competition in the market is violated. Existence of market power, how firms create and maintain it, implications of market power, and related public policy issues.

**ECP 3413 Economics of Regulation and Antitrust (3) AS ECN**
PR: ECO 2013 and ECO 2023
Economic analysis of the rationale and performance of government regulation and antitrust policy. Examination of antitrust issues such as price fixing, mergers, and monopolization, and issues regulating electric utilities, airlines, trucking, consumer product safety, product quality, and the environment.

**ECP 3530 Economics of Health (3) AS ECN**
PR: ECO 3101 or ECP 3703 with a grade of C- or better
Application of economic methods to health care topics such as demand for medical care, public and private health insurance, physician and hospital supply of medical care, government regulations, and national healthcare systems.

**ECP 3613 Urban Economics (3) AS ECN**
PR: ECO 3101 or ECP 3703
The role of space in understanding urban areas and their problems. Economic forces determining where people and firms locate within urban areas. Urban economic growth and development, land-use regulation, urban sprawl, transportation, urban government.

**ECP 3623 Regional Economics (3) AS ECN**
PR: ECO 3101 or equivalent
Survey of regional economics covers theories of location and land use of households and firms; central place theory; spatial structure of urban economy; regional income determination; interregional migration; and urban and regional policy analysis.

**ECP 3703 Managerial Economics (3) AS ECN**
PR: ECO 2023
Application of microeconomic theory to problems in business decision making with a special focus on price determination. May not receive credit for both ECP 3703 and ECO 3101. Formerly ECO 3100.

**ECP 4006 Economics of Sports (3) AS ECN**
PR: ECO 3101 or ECP 3703
This course teaches economics using sports as a backdrop. Topics covered include the economics of labor markets, exploitation, discrimination, monopsony, game theory, bargaining, and cartels. No particular knowledge of sports is required.

**ECP 4451 Law and Economics (3) AS ECN**
PR: ECO 2013 and ECO 2023
Advanced analysis of the economic impact of tort, criminal, property, and contract law as well as in the formation and adjudication of law.

**ECP 4505 Economics of Crime (3) AS ECN**
PR: ECO 2013 and ECO 2023
Application of economic theory to the analyses of criminal behavior, crime prevention, law enforcement, sanctions, and corrections.

**ECP 4510 Economics of Education (3) AS ECN**
PR: ECO 3101, or ECO 2023 and ECO 2013 with B or better
Economic analysis of the goals of education in American society. Topics include theories of human capital and signaling, private returns to schooling, social welfare benefits and role of the public sector, and factors affecting educational productivity.

**ECP 4704 Economics of Business Strategy (3) AS ECN**
PR: ECO 3101 or ECP 3703
This course examines strategies businesses can employ to improve their abilities to compete profitably. Employs game theory to examine horizontal and vertical boundaries of firm, strategic diversification, pricing, and entry deterrence.

**ECS 3013 Economic Development (3) AS ECN**
PR: ECO 2013 and ECO 2023
Economic development in emerging nations.

**ECS 4003 Comparative Economic Systems (3) AS ECN**
PR: ECO 1000 or ECO 2013 and ECO 2023
The major economic systems: traditional, capitalism, democratic socialism, communism and fascism.

**ECS 4430 Economics of Latin America (3) AS ECN**
PR: ECO 1000, or BOTH ECO 2013 and ECO 2023
The course examines key aspects of economic reform efforts in Latin America and the Caribbean and the challenges facing the region at the beginning of the 21st century.

**ECT 4905 Independent Study: Industrial-Technical Education (1-4) ED LCA**
Specialized independent study determined by the student's needs and interests.

**ECT 4909 Directed Study: Industrial-Technical Education (1-3) ED LCA**
To extend competency in teaching field.

**ECT 4936 Senior Seminar in Industrial-Technical Education (2) ED LCA**
CR: EVT 4940.
Synthesis of teacher candidate's courses in complete college program.

**ECT 5386 Preparation and Development for Teaching (4) ED LCA**
The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.

**ECW 5315 Program Management: Diversified Cooperative Training (3) ED LCA**
Organization, coordination, and budgeting of adult, cooperative, and special programs.

**EDE 4223 Creative Experiences for the Child (3) ED TAL**
Provides students with critical understanding of visual arts, music, movement, and drama in K-6 curriculum. Students will develop knowledge and strategies to incorporate creative expression into integrated curriculum. Restricted to majors. Not repeatable.

**EDE 4301 Instructional Planning for Diverse Learners (3) ED TAL**
This course examines the legal issues affecting classroom/school management, school safety, professional ethics and elementary school methods. The course explores the current knowledge of best practices of a variety of teaching and management strategies and methods deemed appropriate for a diverse elementary classroom setting including ESOL students and other exceptionalities.

**EDE 4504 Creating and Differentiating Learning Environments (3) ED TAL**
Approaches to managing the elementary instructional environment and specific strategies for maintaining a safe, positive classroom climate are examined as well as current knowledge of innovative best practices in differentiated instruction.

**EDE 4802 The Teacher as Researcher WRIN 6ACT (3) ED TAL**
CR: EDE 4940
This course prepares teacher candidates to conduct teacher research within their classrooms. This research is presented as a paper which is revised across the semester that summarizes the classroom research.

**EDE 4905 Independent Study: Elementary Education (1-4) ED TAL**
Specialized independent study determined by the student's needs and interests.

**EDE 4909 Directed Study: Elementary Education (1-3) ED TAL**
To extend competency in teaching field.

**EDE 4940 Internship: Elementary Education CPST (3-12) ED TAL**
PR: EDE 4941 and EDE 4942
CR: EDE 4802
Teacher candidate required to demonstrate professional competencies during full day internship in a public or private elementary school.

**EDE 4941 Childhood Education Internship Level I (3) ED TAL**
CR: RED 4310, EDG 4620
Students spend six hours per week in a supervised in-school experience and attend weekly seminar.

**EDE 4942 Childhood Education Internship Level II (3-6) ED TAL**
PR: EDE 4941, RED 4310, EDG 4620, EDF 3122, LAE 4314, EDE 4301, MAE 4310, SCE 4310, LAE 4414, SSE 4313, EME 2040.
Students spend two days per week in a supervised internship experience in classroom settings and attend a weekly seminar. Course is restricted to Elementary Education majors. Course is repeatable for credit, for a total of 6 credit hours.

**EDE 4943 Alternative Setting Field Experience (3) ED TAL**
PR: EDE 4942.
This alternative setting field experience course provides Undergraduate Teacher Candidates with opportunities to work with children in non-traditional, diverse settings and integrate course and field experiences to facilitate learning.

**EDE 4944 Childhood Education Internship Level III (3) ED TAL**
PR: EDE 4942.
This internship experience complements foundational coursework expected in the
COURSE DESCRIPTIONS

Elementary Education program. Students spend two full days per week in an internship experience in K-6 classrooms. The classroom experiences are supplemented by a weekly seminar.

EDF 2005 Introduction to the Teaching Profession (3) ED EAP
Introduction survey course required for admission into the College of Education. A broad overview of the history, sociology and philosophy of education in the United States focuses on education as a field of study and teaching as a profession. Includes lecture and field experience.

EDF 2085 Introduction to Diversity for Educators GCPC (3) ED EAP
Introductory survey course required for admission into the College of Education. Places schools and teaching within the context of the U.S. as a pluralistic society. Topics include: the demographics of diversity; prejudice; elements of culture; American heritage of diversity and its value; and barriers to cultural understanding. Includes lecture and field experience.

EDF 3122 Learning and the Developing Child (3) ED EAP
PR: General psychology
Preadolescent child growth and development, learning theory, and behavioral analysis applied to instruction and to the organization and management of classroom.

EDF 3214 Human Development and Learning (3) ED EAP
PR: General Psychology
Application of respondent and operant learning principles to classroom learning, teaching models for different instructional goals, analysis of teacher behavior, micro-teaching.

EDF 3228 Human Behavior and Environmental Selection 6ACT (3) ED EAP
Learning principles, behavior analysis applied to global environmental and social issues. Requires elementary computer word processing skills.

EDF 3514 History of Education in the United States CASB HHCP (3) ED EAP
History of childhood, education, and schooling in the U.S. from early European and African contact to the present.

EDF 3604 Schools and Society WRIN 6ACT GCPC (3) ED EAP
Social, economic and political context within which schools function and the values which provide direction for our schools.

EDF 4124 Child Growth and Learning (3) ED EAP
An introduction to child development and learning from an educational and psychological perspective. Emphasis is on the application of relevant constructs as they would reflect developmentally appropriate practices in early childhood learning settings.

EDF 4131 Learning and the Developing Adolescent (3) ED EAP
PR: General psychology
Adolescent growth and development, learning theory, and behavioral analysis applied to instruction and to the organization and management of the classroom.

EDF 4430 Measurement for Teachers (3) ED EAP
Concepts and skills related to designing and developing classroom tests; evaluating tests, instruction, and student progress; and communicating student achievement. Including application of performance assessment techniques and computer applications for measuring and assessing pupil progress.

EDF 4490 Studies in Research Design (3) ED EAP
Studies in Research Design introduces students to the logic and dynamics of the research process.

EDF 4905 Independent Study: Educational Foundations (1-4) ED EAP
Specialized independent study determined by the student's needs and interests.

EDF 4905 Directed Study: Educational Foundations (1-3) ED EAP
To extend competency in teaching field.

EDF 5607 Trends in Education Politics (3) ED EAP
Contemporary education politics in the U.S. with interdisciplinary social-science perspectives.

EDG 3801 Cybersecurity and the Everyday Citizen GCPC (3) ED TAL
This course explores the human side of cybersecurity in a globally connected world. We will focus on personal, social and policy issues as well as address strategies to secure our digital footprints and promote safe interactions.

EDG 4620 Curriculum and Instruction (3) ED EAP
An introduction to the field of curriculum and instruction. Emphasis is placed on principles of curriculum development and use of instructional strategies. Students will develop, implement, and evaluate a variety of lesson plans.

EDG 4909 Directed Studies (1-4) ED EAP
To extend competency in teaching field.

EDM 3403 Middle Level Education (3) ED TAL
Middle level teacher candidates will learn the tenets of middle level education for today's young adolescent learner, with an emphasis on the developmental needs of young adolescent learners and the latest trends and issues in middle level education.

EDM 3620 Teaching the Young Adolescent Learner (3) ED TAL
Middle level teacher candidates will learn about the links between the developmental needs of young adolescents, learning theories, middle level curriculum, middle level instructional strategies, ethical behavior and professional competence.

EDM 4406 Contemporary Issues in STEM Education CPST (3) ED TAL
CR: MAE 4942 or SCE 4942
Provides middle school mathematics and science teacher candidates opportunities to explore STEM issues and their role in the STEM pipeline, experience integrated STEM learning.
opportunities, and develop problem and place-based learning activities.

EDP 3271 Child Development within a School Context (1) ED EAP
An introductory course designed to acquaint students with cognitive developmental theories and research that can be applied within a school context. Emphasis on the elementary school years. Restricted to Elementary or Special Education major.

EDP 3272 Learning within a School Context (1) ED EAP
An introductory course designed to acquaint students with brain development and learning that can be applied within a school context. Emphasis on the elementary school years. Restricted to Elementary or Special Education majors.

EDP 3273 Learning and Development within the School Context (3) ED EAP
An introductory course designed to acquaint students with developmental theories and research that can be applied within a school context. This course is required and restricted for the undergraduate elementary education program.

EDP 4275 Enhancing Children’s Learning and Development within a School Context (1) ED EAP
A course that helps students to design instruction while considering individual differences & theories and research in child development and learning. Emphasis on the Elementary School years. Restricted to elementary or Special Education majors.

EEC 4008 Teaching Literature and Writing in Early Childhood WRIN 6ACT (3) ED TAL
This course is designed to provide pre-service teachers with the skills necessary to implement a coordinated literature program and an integrated writing curriculum.

EEC 4203 Programs for Young Children (3) ED TAL
Develops students' understanding of historical and social foundations of early childhood education, establishing professional beliefs regarding teaching young children, and developing an appropriate learning environment.

EEC 4211 Science for Young Children (3) ED TAL
PR: EDF 4124
The purpose of this course is for pre-service teachers to apply research-based learning theories to plan and teach science effectively in the Early Childhood classroom. Enrollment is restricted to majors.

EEC 4212 Integrated Curriculum: Social Sciences/Humanities & Art (3) ED TAL
PR: EDF 4124
Develops an understanding of appropriate curriculum experiences in social science, humanities, and arts for kindergarten and primary grades with an emphasis on integrated experiences, and sociological influences such as culture, ethnicity, language and gender impact understandings, values, and learning.

EEC 4303 Creative and Affective Experiences for Young Children (3) ED TAL
Develops students' understandings of young children's creative expression through art, music, movement, play and drama. Emphasizes how to plan, implement, and evaluate appropriate learning experiences as well as selection of appropriate instructional materials.

EEC 4307 Cognitive Experiences for Young Children (3) ED TAL
PR: EDF 4124
Emphasizes theoretical and practical aspects of cognitive development for children ages 3 through 6 with focus on planning integrated experiences and content in science, mathematics, and social sciences.

EEC 4321 Mathematics for Young Children (3) ED TAL
The purpose of this course is for pre-service teachers in the Early Childhood Program to apply research-based learning theories to plan and teach math effectively in the Early Childhood classroom.

EEC 4408 Child, Family & Teacher Relations (3) ED TAL
CR: LAE 4414, EEC 4408, RED 4310.
Focuses on developing an understanding of children, family, and life style variations and parenting in diverse cultures and at-risk families. Implications from these understandings will guide development of a parent involvement plan that includes effective ways to communicate with parents, conference with parents, and plan parent meetings and home visits.

EEC 4604 Classroom Management and Guidance of Young Children (3) ED TAL
CR: LAE 4414, EEC 4408, RED 4310.
This course for early childhood education majors explores the current knowledge of guidance procedures and techniques for managing classrooms for children ages 3 to 8 years old.

EEC 4613 Assessment and Evaluation of Young Children (3) ED TAL
This course focuses on assessment and evaluation procedures when working with young children ages 3-8. It examines appropriate ways of observing and documenting children, and ways of implementing, interpreting, and utilizing multiple assessment data.

EEC 4614 Current Trends and Issues in Early Childhood Education (3) ED TAL
This course focuses on the current trends and issues in the field of early childhood education. It examines how the political and societal underpinnings of the early education system are influencing schools, teachers, young children, and their families.
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>EEC 4706</td>
<td>Language and Emerging Literacy</td>
<td>3</td>
<td>EDF 4124</td>
<td>Provides knowledge of language development and emerging literacy for typical and atypical development in children from birth to third grade, including ESOL children.</td>
</tr>
<tr>
<td>EEC 4905</td>
<td>Independent Study: Early Childhood Education</td>
<td>1-4</td>
<td></td>
<td>Specialized independent study determined by the student's needs and interests.</td>
</tr>
<tr>
<td>EEC 4909</td>
<td>Directed Study: Early Childhood Education</td>
<td>1-3</td>
<td></td>
<td>To extend knowledge in teaching field.</td>
</tr>
<tr>
<td>EEC 4936</td>
<td>Senior Seminar in Early Childhood Education</td>
<td>3</td>
<td>EE 4940</td>
<td>This course focuses on helping the student synthesize university coursework and experiences in a full-time Pre-K and primary teaching placement. Emphasis is placed on planning and implementing developmentally appropriate teaching-learning experiences.</td>
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<tr>
<td>EEC 4940</td>
<td>Internship: Early Childhood</td>
<td>9</td>
<td>EE 4936</td>
<td>Teacher candidate is required to demonstrate professional competences during one semester of full-time final internship teaching young children ages 3 through 8.</td>
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<tr>
<td>EEC 4941</td>
<td>Field Experience I</td>
<td>3</td>
<td></td>
<td>Field placement with three and four year olds where teacher candidates have opportunities to apply knowledge and skills in authentic situations and become objective observers of young children’s development. Weekly seminars are conducted in conjunction with the field experience which provide teacher candidates an opportunity for reflection on their understandings.</td>
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<tr>
<td>EEC 4942</td>
<td>Field Experience II</td>
<td>3</td>
<td></td>
<td>Field placement in kindergarten or primary grade where teacher candidates have opportunities to apply knowledge and skills in authentic situations. Emphasis on developing deeper understanding of children's development and implications of development for program planning for both typical and atypical children.</td>
</tr>
<tr>
<td>EEC 4943</td>
<td>Field Experience III</td>
<td>3</td>
<td></td>
<td>Field placement in kindergarten or primary grade where teacher candidates have opportunities to apply knowledge and skills in authentic situations. Focus on developing deeper understanding of growth and development and relationship to curriculum planning with an emphasis on self-evaluation of knowledge, skills, and dispositions essential for teaching.</td>
</tr>
<tr>
<td>EEE 3302</td>
<td>Electronics I</td>
<td>3</td>
<td>EGN 3373</td>
<td>A course in the physical principles of electronic devices with emphasis on semi-conductor electronics. Includes the analysis and design of amplifiers and switching circuits.</td>
</tr>
<tr>
<td>EEE 3394</td>
<td>Electrical Engineering Science I - Electronic Materials</td>
<td>3</td>
<td>CHM 2045</td>
<td>Provides knowledge of language development and emerging literacy for typical and atypical development in children from birth to third grade, including ESOL children.</td>
</tr>
<tr>
<td>EEE 4260C</td>
<td>Bioelectricity</td>
<td>3</td>
<td>CHS 2440</td>
<td>Provides the basic principles of RF electronics for biomedical applications, and the objective is to discuss electrical systems pertaining to the human body.</td>
</tr>
<tr>
<td>EEE 4271</td>
<td>Bioelectronics</td>
<td>3</td>
<td>CHS 2440</td>
<td>This is the second course in the series covering bioelectrical phenomena and systems. In this course the focus is electronics for biomedical applications, and the objective is to discuss electrical systems pertaining to the human body.</td>
</tr>
<tr>
<td>EEE 4274</td>
<td>MEMS I: Chemical/Biomedical Sensors and Microfabri</td>
<td>3</td>
<td>CHS 2440</td>
<td>The course gives an introduction to MEMS, microfabrication techniques and processes as well as basic design principles of biological and chemical Sensors. The course concentrates on basics of MEMS, different processes involved and principles of sensing.</td>
</tr>
<tr>
<td>EEE 4301</td>
<td>Electronics II</td>
<td>3</td>
<td></td>
<td>Provides further study in electronic circuits. Includes feedback and frequency response techniques in amplifier design.</td>
</tr>
<tr>
<td>EEE 4305</td>
<td>Communications Electronics</td>
<td>3</td>
<td></td>
<td>Provides the basic principles of RF communications circuits including oscillators, mixers, high frequency amplifiers, etc. Requires the design and implementation of a short range communications link including a transmitter and a superheterodyne receiver.</td>
</tr>
<tr>
<td>EEE 4351C</td>
<td>Semiconductor Devices</td>
<td>3</td>
<td></td>
<td>An introduction to the fundamentals of semiconductor materials and semiconductor device operation.</td>
</tr>
<tr>
<td>EEE 4359</td>
<td>Analog CMOS/VLSI Design</td>
<td>3</td>
<td></td>
<td>This course covers Analog CMOS/VLSI design with topics ranging from devices to circuits and applications.</td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

their simulations, and basics of layout design and their simulations.

**EEE 4410 System on a Chip (3) EN EGE**
PR: EGN 3373
This course addresses the newly emerging area of "system on a chip", which is envisioned as the next revolution beyond integrated circuits. Students will learn the principles and techniques that are expected to apply to this future technology.

**EEE 434C Digital MOS/VLSI Design (3) EN EGE**
PR: EEL 4705
Design, layout, simulation, and test of custom digital CMOS/VLSI chips, using a CMOS cell library and state-of-the-art CAD tools. Digital CMOS static and dynamic gates, flip flops, CMOS array structures commonly used in digital systems. Top down design example of a bit slice processor.

**EEE 5356 Integrated Circuit Technology (3) EN EGE**
PR: EEL 4351
Physics and Chemistry of integrated circuit and discrete device fabrication, materials limitations, processing schemes, failure and yield analysis. A laboratory is integral to the course.

**EEE 5382 Physical Basis Of Microelectronics (3) EN EGE**
PR: EEL 4471
Quantum mechanics with emphasis on electronic properties in atoms, molecules, and crystals; quantum statistics; energy band theory; crystal structures; defect chemistry; semiconductor properties.

**EEL 2161 Programming with C (3) EN EGE**
An introductory course to provide the fundamentals of computer language for electrical engineering students. Skills on syntax, functions, data, input and output, algorithm, and creating solutions for engineering problems using C.

**EEL 3100 Network Analysis and Design (3) EN EGE**
PR: EGN 3420 with a minimum grade of C, EGN 3394 with a minimum grade of C
A third course in linear circuit analysis and design. Transient and steady-state responses of passive RLC networks to various functions.

**EEL 3115 Laboratory I (1) EN EGE**
PR: EGN 3374 with a minimum grade of C
Basic circuit theory applications, computer-aided design tools, electrical measurement techniques.

**EEL 3116L Laboratory II (1) EN EGE**
PR: EEL 3115L and EEE 3302.

This laboratory is designed to introduce electrical engineering students to the design, building and testing of active electronic networks. Computer Aided Design tools and computer data acquisition strategies are examined in greater detail.

**EEL 3163C Computer Tool Lab (1) EN EGE**
PR: EEL 2161 with a minimum grade of C
An introductory course to provide the knowledge on using Matlab and Simulink for solving wide range of problems in the field of electrical engineering - differential equation, convolution, Fourier Series and Transform, Laplace Transform, DSP, and etc.

**EEL 3472C Electrical Engineering Science II - Electromagnetics (4) EN EGE**
PR: EGN 3420 with a minimum grade of C
Electromagnetic field theory, including charge distributions, static and dynamic electromagnetic fields, transmission lines and dynamic electromagnetic fields, transmission lines and optics.

**EEL 3705 Fundamentals of Digital Circuits (3) EN EGE**
Binary number systems: truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; synchronous and Asynchronous logic circuits. HDL’s introduction.

**EEL 3705L Fundamentals of Digital Circuits Laboratory (1) EN EGE**
PR: EEL 3705
Develop designs and demonstrate logic concepts. Schematic capture for design implementation, simulation and design verification.

**EEL 3924 Makecourse-Art: Leonardo in the New Millennium (3) EN EGE**
This course aims to introduce students to the design of products with functional and aesthetic beauty. All students will design a device combining the engineering design process with artistic methodology.

**EEL 4030 Electrical Systems Environments (3) EN EGE**
PR: MAP 2302 and PHY 2049
Dynamics, vibration, thermodynamics, and heat transfer in electrical, electronic, and electromechanical systems and their environments.

**EEL 4102 Signals and Systems (3) EN EGE**
PR: EGN 3420 with a minimum grade of C, EGN 3374 with a minimum grade of C
Provides further study in the analysis of signals and linear systems. Includes time and frequency domain points of view such as Laplace and Fourier analysis as well as convolution.

**EEL 4212 Energy Delivery Systems (3) EN EGE**
PR: EEL 4241 with a minimum grade of C
The course provides the students the fundamentals and analysis of the electric power delivery system to facilitate the integration of distributed energy resources, e.g. solar energy.
### COURSE DESCRIPTIONS

**EEL 4213 Industrial Power Distribution 1 (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C
  - Prepares the student to design electrical power systems for industrial applications. Source configurations, transformer connections, symmetrical and asymmetrical fault calculations, protective device sizing, arc flash calculations.

**EEL 4214 Electric (Utility) Distribution Systems (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C, EEL 4213 with a minimum grade of C
  - Familiarizes the student with electric utility power distribution systems. Modeling loads; distribution transformers; subtransmission lines, substations, and distribution primary and secondary; power system calcs, voltage regulation, protection methods.

**EEL 4224 Electric Machines and Drives (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C, EEL 4213 with a minimum grade of C
  - This course examines power electronic for motor control. AC motor control objectives and realization through power electronic converters will be discussed and validated through Matlab/SimPowersystems based circuit simulation.

**EEL 4241 Power Electronics (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of B or EGN 3374 with a minimum grade of B
  - This course covers circuit topologies used to convert electricity from one form to another. The course will emphasize switch mode building blocks, variety of converters based on the building block, Pulse Width Modulation based control, and applications.

**EEL 4243 Switching Power Supply Design (3) EN**
- **EGE**
  - PR: EEE 4301
  - Provides the basic principles of switching power supply circuits: magnetic circuits, power semiconductors, Buck, Boost, and Flyback configurations, dc to dc converters, dc to ac inverters. Requires the design and construction of a switching power supply.

**EEL 4251 Power System Analysis (3) EN**
- **EGE**
  - PR: EGN 3374 with a minimum grade of B, EGN 3375 with a minimum grade of C
  - This course will introduce analysis and operation of power systems. The topics covered in this course include per unit system, load flow analysis, voltage stability, economic dispatch, state estimation and power system economics.

**EEL 4252 Power Systems II (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C, EEL 4102 with a minimum grade of C
  - Power system control and stability will be covered in this course. The two main controls in power system are voltage control and frequency control.

The mechanism of the two types of control & power system stability will be examined.

**EEL 4258 Industrial Power Distribution 2 (3) EN**
- **EGE**
  - PR: EEL 4213 with a minimum grade of C
  - Prepares the student to design electrical power systems for industrial applications. Raceway design, switchgear and motor control centers, ladder logic, motor application, lighting systems.

**EEL 4271 Power System Protection (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C, EEL 4213 with a minimum grade of C
  - Protection philosophy; electromechanical and microprocessor relays; device coordination; instrument transformers; distance and differential relays; non-radial line, transformer, and generator/motor protection.

**EEL 4283 Sustainable Energy (3) EN**
- **EGE**
  - This course aims to introduce students to concepts of sustainable energy conversion. Solar, wind, hydroelectricity, hydrogen, biomass and geothermal energy conversion methods as well as main storage technologies will be discussed.

**EEL 4295 Power Quality (3) EN**
- **EGE**
  - PR: EGN 3375 with a minimum grade of C
  - Basic power quality concepts including interruptions, voltage sags and swells, transient overvoltages, and harmonics. Emphasis on identifying and designing means of mitigation for commonly-encountered power quality problems.

**EEL 4420 RF & Microwave Measurements (2-3) EN**
- **EGE**
  - PR: EEL 4423L
  - This course introduces students to the theory and applications of modern radio frequency and microwave measurements. Topics to be included are network analyzer, spectrum analyzer, noise, power, and non-linear distortion measurements. Modern trends also treated are the use of on-wafer measurements for transistor characterization and the evaluation of monolithic microwave integrated circuits.

**EEL 4421 RF/Microwave Circuits I (3) EN**
- **EGE**
  - PR: EEL 3100, EEL 4471
  - Introduction to passive microwave circuit design. Investigate the characteristics of transmission lines used in modern microwave systems, the tools used for analysis, and some common circuit topologies for matching, filtering and power distribution. Part one of a two-part sequence. EE majors only. Not available on an S/U basis.

**EEL 4422 RF/Microwave Circuits II (3) EN**
- **EGE**
  - PR: EEL 4421
  - Introduction to active RF/Microwave circuit design. Investigate the characteristics of amplifiers and oscillators used in modern microwave systems, the tools used for analysis, and some common circuit topologies for biasing and matching. Substantial coverage of stability analysis, constant gain methods and noise figure. Part two of a two-
part sequence. EE majors only. Not available on
an S/U basis.

EEL 4423C Wireless Circuits & Systems Design
Laboratory (3) EN EGE
PR: EEL 3472C with a minimum grade of C
An extensive hands-on introduction to wireless
radio frequency and microwave circuits and
systems, involving modern measurements,
fabrication and computer-aided design
experiences at both component and sub-system
levels. Not available on an S/U basis.

EEL 4461 Antenna Theory (3) EN EGE
PR: EEL 3472C with a minimum grade of C or
EEL 4423L with a minimum grade of C
Fundamental principles of antennas and
application of EM theory for antenna analysis and
design. Different types of antennas and their
applications are introduced with particular focus
on linear, loop, patch antennas and antenna
arrays.

EEL 4512C Introduction to Communication
Systems (3) EN EGE
PR: EEL 3100 and EEL 4102
Provides an introduction to the fundamental
principles and techniques of analog and digital
communication systems. Theory is put into
practice by investigating a variety of applications.
Lectures and projects develop understanding of
modern communication systems design and
analysis.

EEL 4567 Electro-Optics (3) EN EGE
PR: EEL 3115L, EEL 3116L, EEL 4471.
An introduction to the field of electro-optics,
including visible and infra-red sources and
detectors, radiometry, optical and electronic
components, and fiber optics.

EEL 4595 Mobile and Personal Communication (3)
EN EGE
Providing the students with a comprehensive
knowledge of most technical aspects, operations,
and applications of second/third/fourth
generations and future cellular mobile and
personal communication technology.

EEL 4657 Linear Control Systems (3) EN EGE
PR: EEL 3100.
Introduction to analysis and design of linear
feedback control systems. Covers block diagram,
flow charts. Bode, Nyquist, and root locus
techniques.

EEL 4657L Linear Controls Laboratory (1) EN EGE
PR: EEL 3100
CR: EEL 4657
This laboratory introduces students to the
techniques needed for the design and
implementation of automatic industrial control
systems. Students will learn the basics of the
software and hardware used for the design and
implementation of control systems.

EEL 4727C Digital Signal Processing with Field
Programmable (3) EN EGE
PR: EEL 4102 and EEL 4512C
Development of real-time digital signal processing
systems from algorithm to hardware using DSP,
FPGA and hybrid DSP/FPGA rapid prototyping
platforms. The course has both lecture and
laboratory components.

EEL 4740 Embedded Systems (3) EN EGE
PR: EEL 4744 with a minimum grade of C
This course covers the principles of hardware and
software design for higher-end embedded
systems inherent in many hardware platforms and
applications being developed for engineering and
science.

EEL 4743L Microprocessor Laboratory (1) EN EGE
CR: EEL 4744.
Application of microprocessors and
microcontrollers for data entry, processing, display
and real time signal input/output and control.

EEL 4744 Microprocessor Principles and
Applications (3) EN EGE
PR: EEL 4705.
Functional Description. Arithmetic and Logic
capabilities. Control and Timing. Interrupts and
priority systems. Software design and
documentation. Distributed function processing.

EEL 4756 Digital Signal Processing (3) EN EGE
PR: EEL 4102
Sampling and quantization of signals; frequency-
domain representations, transforms; digital filtering
filter structures; DFT, FFT; multi-rate processing,
Special analysis.

EEL 4781C Distributed Process & Computer
Networks (3) EN EGE
PR: EEL 4851C.
Design and analysis of distributed processing
systems. Covers communication hardware and
software, network operating systems, and
reliability enhancement techniques.

EEL 4852C Data Base Systems (3) EN EGE
PR: EEL 4851C.
Fundamentals of data base management
systems. Codasyl, network, hierarchical, and
relational data base systems are analyzed, and
typical applications are presented.

EEL 4903 Independent Study (1-5) EN EGE
Specialized independent study determined by the
students’ needs and interests.

EEL 4906 EE Design 1 (3) EN EGE
CR: EEE 4301, EEL 4512C, EEL 4657, EEL 4744.
An introduction of engineering design with
applications specific to practical engineering
problems. Included are discussion of real-world
issues as economics, safety, ethics and the
environment.

EEL 4914 EE Design 2 CPST (3) EN EGE
PR: EEL 4906
Students apply the knowledge acquired in the
classroom to design a system which meets a
predetermined set of specifications. Students work
individually or in small groups with a faculty
member (project director) in their area of interest.
(Majors only.)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEL 4935</td>
<td>Special Electrical Engineering Topics I (1-3) EN EGE</td>
<td>EEL 4936 Special Electrical Engineering Topics II (1-3) EN EGE</td>
</tr>
<tr>
<td>EEL 4936</td>
<td>Special Electrical Engineering Topics II (1-3) EN EGE</td>
<td>EEL 4937 Special Electrical Engineering Topics III (1-3) EN EGE</td>
</tr>
<tr>
<td>PR: EGN 3375</td>
<td></td>
<td>Analysis and design technique for AC power systems.</td>
</tr>
<tr>
<td>EEL 5250</td>
<td>Power System Analysis (3) EN EGE</td>
<td>EEL 5462 Antenna Theory (3) EN EGE</td>
</tr>
<tr>
<td>PR: EEL 4471</td>
<td></td>
<td>Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas and arrays.</td>
</tr>
<tr>
<td>EEL 5462</td>
<td>Antenna Theory (3) EN EGE</td>
<td>EEL 5594L Wireless Circuits and Systems Laboratory (3) EN EGE</td>
</tr>
<tr>
<td>PR: EEL 4471</td>
<td></td>
<td>An extensive hands-on introduction to wireless radio frequency and microwave circuits and systems, involving modern measurements, fabrication and computer-aided design experiences at both component and sub-system levels.</td>
</tr>
<tr>
<td>EEL 5594L</td>
<td>Wireless Circuits and Systems Laboratory (3) EN EGE</td>
<td>EEL 5771 Introduction to Computer Graphics I (3) EN ESB</td>
</tr>
<tr>
<td>PR: COP 4530</td>
<td></td>
<td>An introduction to the evolution of computer graphics including point-plotting, line drawing, two-dimensional transformations and graphics software packages.</td>
</tr>
<tr>
<td>EEL 5771</td>
<td>Introduction to Computer Graphics I (3) EN ESB</td>
<td>EEL 5935 Special Electrical Engineering Topics I (1-3) EN EGE</td>
</tr>
<tr>
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</tr>
<tr>
<td>EEL 5936</td>
<td>Special Electrical Engineering Topics II (1-3) EN EGE</td>
<td>EEL 5937 Special Electrical Engineering Topics III (1-3) EN EGE</td>
</tr>
<tr>
<td>EEX 4012</td>
<td>Foundations of Special Education (3) ED TAL</td>
<td>EEX 4070 Integrating Exceptional Students in the Regular Classroom (2-3) ED TAL</td>
</tr>
<tr>
<td>PR: EEX 4942</td>
<td></td>
<td>Designed for non-special education majors. Includes basic identification techniques and strategies to promote academic and social integration and interaction of &quot;mainstreamed&quot; exceptional students. Concurrent field experience projects are included.</td>
</tr>
<tr>
<td>EEX 4021</td>
<td>Educational Assessment of Exceptional Students (3) ED TAL</td>
<td>EEX 4202 Context and Foundations (6) ED TAL</td>
</tr>
<tr>
<td>PR: EDF 3214, EDF 4430 and EEX 4012</td>
<td>CR: EEX 4941 and EEX 4894</td>
<td>CR: EEX 4942</td>
</tr>
<tr>
<td>EEX 4240</td>
<td>Beginning to Teach (6) ED TAL</td>
<td>EEX 4211 Creating Effective Learning Environments (3) ED TAL</td>
</tr>
<tr>
<td>PR: EEX 4020, EEX 4942</td>
<td>CR: EEX 4942</td>
<td>CR: EEX 4942</td>
</tr>
<tr>
<td>EEX 4241</td>
<td>Creating Effective Learning Environments (3) ED TAL</td>
<td>EEX 4242 Enhancing Expertise in Teaching and Instructional Decision Making (6) ED TAL</td>
</tr>
<tr>
<td>PR: EEX 4240, EEX 4942</td>
<td>CR: EEX 4942</td>
<td>CR: EEX 4942</td>
</tr>
<tr>
<td>EEX 4242</td>
<td>Enhancing Expertise in Teaching and Instructional Decision Making (6) ED TAL</td>
<td>EEX 4244 Education of Exceptional Adolescents and Adults (3) ED TAL</td>
</tr>
<tr>
<td>PR: EEX 4241, EEX 4942</td>
<td>CR: EEX 4942</td>
<td>CR: EEX 4942</td>
</tr>
<tr>
<td>EEX 4243</td>
<td>Education of Exceptional Adolescents and Adults (3) ED TAL</td>
<td>EEX 4244 Becoming a Special Education Teacher WRIN 6ACT (3) ED TAL</td>
</tr>
<tr>
<td>PR: EEX 4012 or equivalent</td>
<td></td>
<td>CR: EEX 4942</td>
</tr>
<tr>
<td>EEX 4054</td>
<td>Perspectives on Learning and Behavioral Differences (3) ED TAL</td>
<td></td>
</tr>
<tr>
<td>PR: EEX 4012</td>
<td></td>
<td>The purpose of this course is to introduce students to the historical and theoretical perspectives on educating students with learning and behavioral differences, develop a critical understanding of current practices in service delivery systems, and examine professional issues and trends that impact the future of the field.</td>
</tr>
<tr>
<td>EEX 4070</td>
<td></td>
<td>EEX 4070 Integrating Exceptional Students in the Regular Classroom (2-3) ED TAL</td>
</tr>
<tr>
<td>EEX 4244</td>
<td>Becoming a Special Education Teacher WRIN 6ACT (3) ED TAL</td>
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</tr>
</tbody>
</table>
EEX 4942 Practicum in Exceptional Teacher Education (1-4) ED TAL
CR: EEX 4942
Each practicum is linked to a specific course and provides opportunities for teacher candidates to apply what they are learning in the field. Practicum is restricted to majors.

EEX 4944 Final Internship (1-12) ED TAL
PR: EEX 4942
CR: EEX 4244
The course fulfills the Florida Department of Education, teacher certification requirement for a full-time internship in a K-12 accredited school for Exceptional Student Education Majors only. It is not repeatable.

EEX 5705 Seminar in Preschool Handicapped (2) ED TAL
Intended to familiarize the education student with the wide range of needs and services of the preschool children with disabilities and their families and how they coordinate with educational services.

EEX 5752 Working With Families: A Pluralistic Perspective (3) ED TAL
PR: Introductory course in special education
The impact of the socio/cultural environment on the education of at-risk children and children with disabilities; family systems theory, principles of multi-cultural education, strategies for working effectively with families of school-age children, diverse cultures and family structures represented in school populations today.

EGI 5051 Nature and Needs of the Gifted (3) ED TAL
This survey course examines the characteristics and educational needs of children and youth who are gifted, including those from special populations. Emphasis is on giftedness as defined historically, nationally and locally. The course also explores changing views of intelligence and talent development related to policy and practice in gifted education as well as the processes of identification and programming.

EGI 5307 Theory and Development of Creativity (3) ED TAL
Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.

EGI 5752 Working With Families: A Pluralistic Perspective (3) ED TAL
PR: Introductory course in special education
The impact of the socio/cultural environment on the education of at-risk children and children with disabilities; family systems theory, principles of multi-cultural education, strategies for working effectively with families of school-age children, diverse cultures and family structures represented in school populations today.

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EGI 5051 Nature and Needs of the Gifted (3) ED TAL
This survey course examines the characteristics and educational needs of children and youth who are gifted, including those from special populations. Emphasis is on giftedness as defined historically, nationally and locally. The course also explores changing views of intelligence and talent development related to policy and practice in gifted education as well as the processes of identification and programming.

EGI 5307 Theory and Development of Creativity (3) ED TAL
Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.

EGI 5752 Working With Families: A Pluralistic Perspective (3) ED TAL
PR: Introductory course in special education
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Differentiation and integration, complex numbers, phasors, vectors, the physical laws for resistors, capacitors, and inductors.

**EGN 2082 History of Electrotechnology (3) EN EGB**

Highlights of the history of electrotechnology and its relation to the development of civilization. The contributions of Volta, Faraday, Morse, Bell, Hertz, Marconi, Franklin, etc. in the context of the development of western civilization. The impact of communications, electronics and computers in the twenty-first century.

**EGN 3000 Foundations of Engineering (0-3) EN EGB**

Introduction to the USF College of Engineering disciplines and the engineering profession. Course will provide you with knowledge of resources to help you succeed. Course topics include academic policies and procedures, study skills, and career planning.

**EGN 3000L Foundations of Engineering Lab (1-3) EN EGB**

Introduction to engineering and its disciplines incorporating examples of tools and techniques used in design and presentation. Laboratory exercises will include computer tools, engineering design, team projects, and oral and written communication skills.

**EGN 3060 Mechatronics for Innovation (3) EN EGE**

PR: MAC 2282 or MAC 2312 or AP68 score of 4

To present mechatronics as the integration of mechanical & electrical systems, electronics, computer software and control systems via multidisciplinary applications while fostering a dialog among artists, STEM educators and engineers to promote innovation.

**EGN 3311 Statics (3) EN EGB**

PR: PHY 2048.

Principles of statics, mechanical equilibrium, forces, moments, plane trusses. Lec.-pro.

**EGN 3321 Dynamics (3) EN EGB**

PR: EGN 3311

Dynamics of discrete particles; kinematics and kinetics for rigid bodies. Lec.

**EGN 3331 Mechanics of Materials (3) EN EGB**

PR: EGN 3311, EGN 4453

CR: CGN 4933

Stress, strain, Hooke’s Law; torsion, beam, column analysis; combined stresses; Inelastic effects, limit design. Lec.

**EGN 3331L Mechanics of Materials Laboratory (1) EN EGB**

PR: EGN 3311

CR: EGN 3331

Experiments in mechanics of deformable bodies with integrated materials component. Lab.

**EGN 3343 Thermodynamics I (3) EN EGB**

PR: PHY 2048, PHY 2049, MAC 2283 or MAC 2313, all with a grade of C or better (not C-)

Axiomatic introduction to thermodynamic concepts of energy, entropy, work and heat. Properties of ideal and real substances. Applications: power production and refrigeration, phase equilibria.

**EGN 3353 Basic Fluid Mechanics (3) EN EGB**

PR: EGN 3311, EGN 4453

CR: EGN 3321

CR: CGN 4933

‘Fundamental and experimental concepts in ideal and viscous fluid theory; momentum and energy consideration, introduction to hydraulics, pipe flow. Lecture.

**EGN 3365 Materials Engineering I (3) EN EGB**

PR: CHM 2045

CR: EGN 3311

Structure and property relationships in engineering materials, i.e., metal, ceramic and polymer systems. Environmental effects are also treated.

**EGN 3373 Introduction to Electrical Systems I (3) EN EGB**

PR: PHY 2049, PHY 2049L

CR: MAP 2302

A course in AC and DC linear circuit analysis. Transient and steady-state analysis. Polyphase circuits.

**EGN 3374 Introduction to Electrical Systems II (3) EN EGB**

PR: EGN 3373

CR: MAP 2302

A second course in linear passive circuits (following EGN 3373). An extension of the physical principles and models, AC/DC steady-state, transient analysis and power analysis techniques.

**EGN 3375 Electromechanical Systems (3) EN EGB**

PR: EGN 3374, with a minimum grade of B.

Analysis of electromechanical device performance: transformers, transducers, DC motors and generators, AC motors and alternators.

**EGN 3420 Engineering Analysis (4) EN EGB**

PR: MAC 2282

Introduction to fundamentals of functions, matrices, matrix calculations, simultaneous equations, vector space, vector analysis, vector calculus, vector algebra, Laplacian operator, linear transformations, eigenvalues and eigenvectors.

**EGN 3433 Modeling and Analysis of Engineering Systems (3) EN EGB**

PR: MAC 2283, PHY 2049.

Dynamic analysis of electrical, mechanical, hydraulic and thermal systems; Laplace transforms; numerical methods; use of computers in dynamic systems; analytical solution to first and second order ODEs. Restricted to majors.

**EGN 3443 Probability and Statistics for Engineers (3) EN EGB**

PR: MAC 2282.

An introduction to the basic concepts of statistical analysis with special emphasis on engineering applications.
### COURSE DESCRIPTIONS

**EGN 3615 Engineering Economics with Social and Global Implications**
CASB (3) EN EGB  
Presents basic economic models used to evaluate engineering activities and an understanding of the social and ethical implications of financial decisions in a multicultural environment through lectures, case studies and current readings.

**EGN 3940 Professional Engineering Internship**  
EN EGB  
Professional or interdisciplinary work period in engineering or career-related field. Enrollment limited to one semester and/or one summer per academic year. Offered on a S/U basis only. Restricted to engineering majors.

**EGN 4366 Materials Engineering II**  
EN EGB  
PR: EGN 3365. Applications and structure property relationships of commonly used engineering materials. Steel, nonferrous alloys and their welding, heat treatment and processing. Introduction to ceramic and polymeric materials.

**EGN 4450 Introduction to Linear Systems**  
EN EGB  
PR: MAC 2282. Study and application of matrix algebra, differential equations and calculus of finite differences.

**EGN 4453 Numerical & Computer Tools I in Civil & Env Eng**  
EN EGB  
PR: MAC 2281, PHY 2048  
EXCEL spreadsheet operations, computer basics, computer programming operations, flow charts, developing simple computer programs, vector and matrix algebra, equation solving techniques.

**EGN 4454 Numerical & Computer Tools II in Civil & Env Eng**  
EN EGB  
PR: EGN 4453  
CPR: MAP 2302  
Numerical Methods including numerical integration, root finding, numerical differentiation and integration, eigen-values, and eigen-vectors, data modeling. Development of computer programs to perform these operations.

**EGN 4905 Independent Study**  
EN EGB  
Specialized independent study determined by the students' needs and interests.

**EGN 4930 Special Topics in Engineering**  
EN EGB  
New technical topics of interest to engineering students.

**EGN 5421 Engineering Applications for Vector Analysis**  
EN EGB  
Vector methods in electromagnetism and fluid mechanics. Vector operators, line and flux integrals, potential and transport theorems, applications.

**EGN 5422 Engineering Applications of Partial Differential Equations**  
EN EGB  

**EGN 5423 Neural Networks and Mathematics for Communication**  
EN EGB  
Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverse. Techniques for optimization.

**EGN 5424 Engineering Applications of Complex Analysis**  
EN EGB  
Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics.

**EGN 5940 Professional Engineering Internship**  
EN EGB  
Professional or interdisciplinary work period in engineering or career-related field.

**EGS 2040 History of Technology**  
EN EGB  
Covers the evolution of technology and its influence on society from pre-historic man to the modern day. Topics include: seven technological ages of man, methods of producing power, materials, transportation, communication and calculation, and technology and society.

**EGS 3720 Globalization and Technology**  
CAGC HHCP (3) EN EGB  
In this course the student will learn to apply financial analyses to engineering projects. In addition the student will learn the effects (ramifications) of the changing global economy. He/she will apply the tools to business and personal situations.

**EIN 3241 Ergonomics I**  
EN ESB  
Using the fundamentals of the design process, this course demonstrates the critical importance of ergonomic tools and underlying physical human capacities.

**EIN 4142 Project Management**  
EN EGS  
PR: EGN 3443  
Provide principles and techniques for planning, scheduling and managing projects in engineering and related environments. Applies analytical tools and techniques including software to solve project management problems. Not restricted. Non-repeatable.

**EIN 4172 ISO 9000/14000**  
EN EGS  
This course covers analysis of ISO 9000 and ISO 14000 publications with a view towards understanding the documentation process, auditing for registration purposes, and the relationship to the quality systems and programs.

**EIN 4173 Quality Management Systems**  
EN EGS  
This course presents the functions and responsibilities of the quality organization. Quality Management Systems concepts and tools for continuous improvement, include Baldrige Criteria, ISO 9000, and 6-Sigma, are analyzed for sequence of use and application.

**EIN 4180 Principles of Engineering Management**  
EN EGS
Emphasis is placed on management practice in an engineering-intensive context. Topics include management theory, planning and control, strategic management, organizing, ethics, leadership, innovation and change, and communication skills.

EIN 4200 Creativity in Technology (3) EN EGS
This course is designed to aid in re-opening the creativity within ourselves so that each life can be a work of art. Exploration and discovery of the individual’s higher SELF helps to develop their complete potential and creativity in all parts of life.

EIN 4213 Engineering Systems Safety (3) EN EGS
This course presents the theory and practical implications of concepts of system safety related to the life cycle of a product/system, analysis of the fundamental concepts, design implications, and specifications of safety in a human machine environment.

EIN 4214 Occupational Safety Engineering (3) EN EGS
Introduction to the principles of designing, maintaining, and managing a free-hazard workplace, including mechanical, fall/lifting, climate/environmental, electrical, fire, explosive and pressure. Covers design issues, warnings, and personal protective equipment.

EIN 4224 Ergonomics II (3) EN ESB
This course applies the concepts of work design and measurements within the ergonomic arena to achieve work design that is ergonomically feasible and effective.

EIN 4243C Human Factors 6ACT (3) EN EGS
Design of man-machine systems, by taking into consideration both human and machine capabilities and limitations.

EIN 4312C Work Analysis (3) EN EGS
Operation analysis and workspace design, work measurement, standard data, ergonomics, and labor costing.

EIN 4333 Production Control (3) EN EGS
Planning and control of production systems. Includes: forecasting and inventory control models, scheduling and sequencing, MRP, CPM/PERT, and resource requirements.

EIN 4352 Engineering Cost Analysis (3) EN EGS
This is a non-repeatable course restricted to Industrial Engineering majors. It provides students with the principles and techniques for the cost analysis, estimation and evaluation of engineering design in service and manufacturing organizations.

EIN 4364 Facilities Design and Cost Analysis (3) EN EGS
Principles and techniques for the design, modification, cost analysis, and evaluation of service and industrial production facilities.

EIN 4385 Management of Technical Change (3) EN EGS
In this course we explore how technology changes can impact business, how employees accept changes to benefit the company, and how to gain optimal results from such changes. This course focuses on the tools to achieve successful change.

EIN 4451 Lean Six Sigma (3) EN EGS
A presentation of lean six sigma, what it is, details of the tools and methodology that comprise it, and how it relates to the business process improvements.

EIN 4453 Advanced Lean Six Sigma (3) EN EGS
Advanced Lean Six Sigma expands upon initial exposure to lean six sigma knowledge of available statistical tools and techniques. It carries the service learning designation and includes a compulsory project where learned concepts are applied.

EIN 4601C Automation and Robotics (3) EN EGS
Introduction to the practices and concepts of automation as applied to material handling, inventory storage, material transfer, industrial processes and quality control.

EIN 4621 Manufacturing Processes (3) EN EGS
The study of basic manufacturing processes and precision assembly. CAD/CAM including NC programming.

EIN 4891 Capstone Design CPST (3) EN EGS
Teams of students work on the design of a product/service company and performed tasks that range from product/service definition (and assessment of market needs) to production and evaluation of economic/financial feasibility. The product/service design will use existing prototype(s) that need revisions, improvements and enhancements considering design, usability, productivity/manufacturability, and delivery.

EIN 4933 Special Topics in Industrial Engineering (1-3) EN EGS
Special topics related to economic analysis, optimization, human factors, manufacturing and automation aspect of industrial systems. Repeatable up to 5 credit hours.

EIN 4936 Total Quality Management Concepts (3) EN EGS
This course will examine the methodology and procedures that companies use to improve quality and its operational benefits, including the management transformation (paradigm shift) that is evolving. Unrestricted. Nonrepeatable for credit.

EIN 5182 Principles of Engineering Management (3) EN EGS
Course Descriptions

Introduction to the fundamentals of planning, organizing and leadership as needed by engineers, scientists, and other professionals considering managerial positions.

EIN 5201 Creativity in Technology (3) EN EGS
Designed to aid engineers, and others, re-open the creativity within themselves. It is focused on the student and his/her interests in technology and innovation. Graduate students and senior undergraduates.

EIN 5275 Work Physiology and Biomechanics (3) EN EGS
Human physiological limitations encountered in design, analysis and evaluation of man-machine systems.

EIN 5350 Technology and Finance (3) EN EGS
A course for technical managers that focuses on how financial and economic principles are utilized to make technical investments and manage technical enterprises.

EIN 5452 Engineering a Lean Enterprise (3) EN EGS
Engineering the Lean Enterprise introduces you to one of the most successful strategies in operations: lean manufacturing, as seen at Toyota and other companies. Lean manufacturing is a philosophy that applies both on and off the factory floor.

EIN 5510 Manufacturing Systems Analysis (3) EN EGS
The study of systems of manufacturing entities such as machine tools, robots, and materials handlers. Emphasis is on mathematical description of integrated systems and system optimization.

EMA 4003 Introduction to Materials Science (3) EN ECH
PR: ECH 3023 or CI
Introduction to the main families of materials and principles behind their design, selection, development, and behavior. Relationship of properties to structure and processing of materials.

EMA 4324 Corrosion of Engineering Materials I (3) EN EGX
Principles of electrochemical corrosion and the representation of corrosion processes by polarization diagrams. Origin and prevention of the localized forms of corrosion and approaches to corrosion control.

EMA 5326 Corrosion Control (3) EN EGX
PR: EGN 3365.
Provide understanding of corrosion fundamentals. Introduce design for corrosion detection, protection, and control. Acquire research project experience.

EME 2040 Introduction to Technology for Educators (3) ED EAP
Designed as an introduction to computer technology and its role in teaching and learning processes. Topics include educational software, ethical and social issues, hardware, interactive multimedia, models for integrating technology into instruction, productivity tools and telecommunications.

EME 5317 Technology Leadership in Education (3) ED EAP
Selecting, organizing, and using major types of instructional technology and equipment in various school curricula and educational programs. Explores the transformational power of emerging technologies in schools.

EME 5403 Computers in Education (3) ED EAP
A survey course designed to introduce practicing teachers to microcomputer technology and its function in the classroom to augment the teaching and learning processes. Objectives include the use and evaluation of educational software, classroom use of computers, instructional computing research, generic applications software (word processors, database managers, etc.), programming, disk operating systems, and microcomputer hardware.

EML 3022 Computer Aided Design and Engineering (3) EN EGR
This course is intended for developing graphics design concepts in undergraduate students. Learning engineering drawing fundamentals, design views, design and analysis of mechanical engineering power transmission components using computer aided software.

EML 3035 Programming Concepts for Mechanical Engineers (1) EN EGR
PR: MAC 2281, PHY 2048
Solution of engineering and science problems using programming language such as Visual Basic or Maple. Topics include fundamentals of programming, controlling program flow and arrays. Restricted to majors; not repeatable for credit.

EML 3041 Computational Methods (3) EN EGR
PR: MAP 2302 with a minimum grade of C or EGN 3433 with a minimum grade of C and EML 3035 with a minimum grade of C- and EGN 3343 with a minimum grade of C and EML 3500 with a minimum grade of C Techniques to solving engineering problems using numerical methods. Topics include roots of equations, matrix algebra, simultaneous linear equations, numerical integration and differentiation, and curve fitting.

EML 3262 Kinematics and Dynamics of Machinery (3) EN EGR
PR: EGN 3321, EML 3022, both courses with a minimum grade of C-; and EGN 3343, EML 3500, both courses with a minimum grade of C Kinematics of machines and mechanisms; position, velocity, and acceleration analysis of mechanisms; cams; gear trains; inertia forces in mechanisms; flywheels; balancing of rotating masses.

EML 3303 Mechanical Engineering Lab I (3) EN EGR
COURSE DESCRIPTIONS

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PR: EGN 3443
CR: EML 3701, EML 3500

EML 3500 Mechanics of Solids (3) EN EGR
PR: EGN 3311
Stress and deflection analysis of machine parts, variable loads, endurance limits, fasteners, bearings, power transmission, code consideration of pressure and vacuum vessels, elements of design.

EML 3701 Fluid Systems (3) EN EGR
PR: EGN 3343 (with a minimum grade of C); EGN 3321 (with a minimum grade of C-
Principles of fluid flow; piping and duct systems; fluid machinery; metering of compressible and incompressible flow; boundary layer theory; dimensional analysis; introduction to aerodynamics.

EML 4106C Thermal Systems and Economics (3) EN EGR
PR: EGN 3343 and EML 3500, both courses with a minimum grade of C
Power and refrigeration cycles; fuels and combustion; internal combustion engine cycles; co-generation; nuclear energy; methods of economic analysis.

EML 4123 Heat Transfer (3) EN EGR
PR: EML 3701, EML 3041
Conduction, convection and radiant heat transfer; thermal properties of materials; role of fluid flow in convective heat transfer; design and selection of heat exchangers.

EML 4141 Thermal Management of Electronic Systems (3) EN EGR
PR: EML 4123
Introduction to principles of thermal management for controlling heat dissipation in electronics systems. Passive & active thermal management techniques for electronic systems & components are considered with regard to fundamental heat transfer modes.

EML 4220 Vibrations (3) EN EGR
PR: EML 3262, EML 3041 (Grade of C- required)

EML 4230 Introduction to Composite Materials (3) EN EGR
PR: EML 3500 and EML 3041
The course introduces manufacturing types and applications of advanced composites. Students study micromechanical and macromechanical behavior of a lamina and analyze and design a laminated structure made of advanced composite materials.

EML 4246 Tribology (3) EN EGR
PR: EML 3500, EML 3701 and EML 4501.
Introduction to friction, lubrication and wear. Contact of real surfaces, mechanics of friction, surface failures, boundary lubrication fluid properties, thin film lubrication, thick film lubrication, bearing and lubricant selection.

EML 4284 Compliant Mechanisms (3) EN EGR
PR: EML 3262
This course presents methods for the design of compliant mechanisms, mechanisms that gain some or all of their motion from the deflection of flexible members. The course treats mechanism analysis, synthesis, and design applications.

EML 4302 Mechanical Engineering Laboratory II (3) EN EGR
PR: EML 3303.
Continuation of EML 3303 with emphasis on material and energy balances, stress analysis and vibrations. Lec.-lab. The Team-Project-Time Approach.

EML 4310 Microcontrollers (3) EN EGR
CR: EML 4312.
To introduce students to microcontroller technology, and to provide them with an understanding of the concepts and principles used to interface input and output devices to microcontrollers, program microcontrollers, and to develop applications.

EML 4312 Mechanical Controls (3) EN EGR
PR: EGN 3321, EGN 3373.

EML 4325 Mechanical Manufacturing Processes (3) EN EGR
PR: EGN 3365 with a minimum grade of C- and EGN 3343 and EML 3500 both with a minimum grade of C
Description of mechanical material cutting, forming and fabrication methods, as used in modern industrial manufacturing processes.

EML 4326 Advanced Materials Processing (3) EN EGR
PR: EML 3500 and EML 4325.
Advanced materials processing focuses on the fundamental principles of solidification, deformation, additive and subtractive processes. Integrated process modeling will lead to optimized performance through processing - structure - property relationships.

EML 4395 Motor Selection and Control (3) EN EGR
PR: ENG 3373
COURSE DESCRIPTIONS

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Standard electrical voltages; power wiring in industrial plants; NEMA motor designs and their uses; techniques for estimating motor starting times and temperature rise; motor selection, starting, and operating safety interlocks; conventional starting and control systems; programmable controllers; electrical code requirements for conductors and protective devices.

EML 4414 Power Plant Engineering (3) EN EGR
PR: EML 4106C.
The study of large scale thermo-electric power conversion for utility systems. Combustion of hydrocarbon fuels, furnace, steam generated auxiliary system design. Topics include control of our emissions, design and performance of combined power facilities.

EML 4419 Propulsion I (3) EN EGR
PR: EML 3701, EML 3500
Introduction to the design of propulsion systems. Basic analysis of internal combustion, jet and rocket engines. Application to ground and air transportation. Advanced propulsion concepts. Special topics for class discussion.

EML 4450 Alternative & Renewable Energy (3) EN EGR
PR: EML 3500 and EGN 3343
An overview of energy conversion for electrical power generation and transportation, both conventional and sustainable. The course is aimed at mechanical engineering seniors and includes hands-on design projects.

EML 4501 Machine Design (3) EN EGR
PR: EML 3500 with a minimum grade of C and EML 3022 and EML 3262 both with a minimum grade of C-
Designed to teach students to apply the principles of engineering mechanics, materials and manufacturing to the design/analysis of machine elements and mechanical systems. Emphasis is given toward good design practice as well as pitfalls that can result in a catastrophic failure.

EML 4503 Sustainable Design and Materials (3) EN EGR
PR: EML 4501
This course integrates sustainability into the design of engineered products. Topics include materials selection and function performance, design for the 4 Rs, end-of-life concerns and product life cycle assessment methods.

EML 4551 Capstone Design CPST (3) EN EGR
PR: EML 4501 (minimum grade: C-), and EML 4106C (minimum grade: C-), and EML 3701 (minimum grade: C-)
Comprehensive design or feasibility project requiring application of previously acquired engineering knowledge; use of ANSYS, CAD AND Pro/E.

EML 4552 Senior Mechanical Design (3) EN EGR
Comprehensive design or feasibility study project. In some cases may be a continuation of EML 4551.

EML 4575 Principles of Fracture Mechanics (3) EN EGR
PR: EML 3500, EGN 3343
Introduction to failure and fracture of linear and nonlinear engineering materials, as well as designing against fracture in modern materials.

EML 4593 Haptics (3) EN EGR
PR: EML 3041; EML 4312
Course covers the theory and implementation of haptic interfaces and rendering, teleoperation, modeling, control and stability of feedback for robotic systems and virtual environments, and the related human haptic sensing capabilities.

EML 4601 Air Conditioning Design (3) EN EGR
PR: EGN 3343 and EML 3500, both courses with a minimum grade of C
Application of thermodynamics, heat transfer, and fluid flow to sizing of HVAC systems. Heating and cooling calculations, air requirements, equipment sizing. Energy Code requirements. Design project.

EML 4702 Fluid Dynamics II (3) EN EGR
PR: EGN 3343, EGN 3321 and EML 3701
The Fluid Dynamics II course is a senior level technical elective for Mechanical Engineering Students. The goal of the course is develop an advanced understanding of fluid dynamics applied to mechanical engineering as well as to other related fields.

EML 4703 Mechanics of Compressible Fluids (3) EN EGR
PR: EML 3701, EGN 3343
Introduction to kinetic theory of gases, compressible flow equations, isentropic flow, flow with friction and heat transfer, compression and expansion in supersonic flow, normal and oblique shock waves and Prandtl-Meyer expansions.

EML 4905 Independent Study (1-4) EN EGR
Specialized independent study determined by the student's needs and interests.

EML 4930 Special Topics in Mechanical Engineering (1-3) EN EGR

EMR 4011 Mental Retardation and Developmental Disabilities (3) ED TAL
PR: EEX 4012 or equivalent.
This course is designed to provide students with a broad introduction to the area of mental retardation and developmental disabilities with particular emphasis on the educational aspects. This course is required by the State for certification in mental retardation.

ENC 1101 Composition I CAEC HHCP 6ACT (3) AS ENG
This course helps prepare students for academic work by emphasizing expository writing, the basics of library research, and the conventions of academic discourse.

ENC 1102 Composition II CAEC 6ACT (3) AS ENG

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<td>UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
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<tr>
<td>PR: ENC 1101 (or the equivalent, i.e. passing the CLEP exam).</td>
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<td>This course emphasizes argument, research, and style. As students engage in creative and critical thinking, they learn to support assertions based on audience and purpose; students apply library research, strategies for revision, and peer response.</td>
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<td>ENC 1120 Improving College-Level Writing (3) US RLS</td>
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<td>This class approaches writing as a process and utilizes prewriting, drafting, revising, and editing. Through intensive reading and writing practice, the curriculum will address grammar, mechanics, punctuation, word usage, and essay structure.</td>
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<td>ENC 2210 Technical Writing 6ACT (3) AS ENG</td>
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<td>PR: ENC 1101 and ENC 1102 or ENC 1121 and ENC 1122.</td>
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<td>Effective presentation of technical and semi-technical information. Will not count toward the English major.</td>
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<tr>
<td>ENC 3242 Technical Communication for Majors (3) AS ENG</td>
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<td>PR: ENC 1101 &amp; 1102 or ENC 1121 &amp; 1122.</td>
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<td>The study of the range of possible careers for technical communicators with special emphasis on the issues that professional writers face in various workplace contexts and on the skills needed in word processing.</td>
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<tr>
<td>ENC 3246 Communication for Engineers WRIN 6ACT (3) AS ENG</td>
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<tr>
<td>Focuses on writing concerns of engineers. Deals with the content, organization, format, and style of specific types of engineering documents. Provides opportunity to improve oral presentations.</td>
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<tr>
<td>ENC 3249 Communication for IT Professionals WRIN 6ACT (3) AS ENG</td>
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<tr>
<td>PR: ENC 1101 and ENC 1102 or Honors English. This course is devoted to the written and oral communication concerns of the 21st Century information technology professional. Students will be engaged individual and team development of professional and technical documents relevant to the IT field.</td>
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<tr>
<td>ENC 3250 Professional Writing WRIN 6ACT (3) AS ENG</td>
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<td>PR: ENC 1101 and ENC 1102 or ENC 1121 and ENC 1122. The course is an introduction to the techniques and types of professional writing, including correspondence and reports. It is designed to help strengthen skills of effective business and professional communication in both oral and written modes.</td>
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<tr>
<td>ENC 3310 Expository Writing WRIN 6ACT (3) AS ENG</td>
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<td>PR: ENC 1101 and ENC 1102 or ENC 1121 and ENC 1122. This is a course that teaches the techniques for writing effective prose, (excluding fiction), in which student essays are extensively criticized, edited, and discussed in individual sessions with the instructor and with peers.</td>
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<td>ENC 3371 Rhetorical Theory for Technical Communication (3) AS ENG</td>
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<td>This course provides undergraduates exposure to key rhetorical theorists and concepts, placing special emphasis on the relationships between rhetor, audience, context, and medium. This course is open to all students and is not restricted or repeatable.</td>
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<tr>
<td>ENC 3416 New Media for Technical Communication (3) AS ENG</td>
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<td>PR: ENC 1101 and ENC 1102 or ENC 1121 and ENC 1122. The study and production of digital media with special emphasis on emergent and evolving applications.</td>
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<tr>
<td>ENC 3435 Rhetoric and Gaming (3) AS ENG</td>
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<td>This course applies different theoretical lenses to broaden students’ understandings of videogames. Students familiarize themselves with the major genres of writing predominant in the videogame industry. Students work together to design and implement a game.</td>
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<tr>
<td>ENC 4218 Visual Rhetoric for Technical Communication (3) AS ENG</td>
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<tr>
<td>PR: ENC 1101 and ENC 1102 or ENC 1121 and ENC 1122. The study and production of visual rhetoric with special emphasis on print and digital document design and technical graphics.</td>
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<tr>
<td>ENC 4260 Advanced Technical Writing (3) AS ENG</td>
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<td>PR: ENC 2210, or ENC 3310 Advanced Technical Writing is a course designed to develop writing skills of a high order: technical exposition; technical narration, description, and argumentation; graphics; proposals; progress reports; physical research reports; and feasibility reports.</td>
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<td>ENC 4311 Advanced Composition (3) AS ENG</td>
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<tr>
<td>PR: ENC 3310 Instruction and practice in writing effective, lucid, and compelling prose, with special emphasis on style, logical argumentation, and critical thinking.</td>
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<td>ENC 4931 Selected Topics in Professional and Technical Writing (3) AS ENG</td>
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<td>PR: ENC 3250, ENC 2210, or ENC 3310 Focus of the course will be determined by student demand and instructor interest. Topics to be covered may include legal writing, the conventions of business writing, writing in the medical fields, and writing for the social sciences. May be taken twice for credit with different topics.</td>
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<tr>
<td>ENC 4940 Professional/Technical Communications Internship (3) AS ENG</td>
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<td>Supervised work-and-learning experience in professional and technical communications under the direction of a University faculty member and an employee of a participating firm. Repeatable one time for 3 credit hours.</td>
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COURSE DESCRIPTIONS

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ENG 3014 Introduction to Literary Methodology (3) AS ENG
PR: ENC 1101 and ENC 1102.
This course prepares English majors and minors with the basic critical and technical skills and understanding for subsequent literary study in 3000- and 4000-level courses towards the major.
Substantial writing. Required of LIT majors. Recommended during first 2 semesters of LIT major.

ENG 3113 Film as Narrative Art (3) AS ENG
This course will examine the role of narrative as it appears in national and international cinema and study different theoretical and historical perspectives of cinematic narrative and cinematic techniques and interpretation.

ENG 4013 Literary Criticism (3) AS ENG
A study of the works of major literary critics from Aristotle to the present, with emphasis on their meaning, their implied world view, and their significance for our own time and literature. Required for Literature majors. Recommended before 4000-level literature courses.

ENG 4060 History of the English Language (3) AS ENG
The evolution of language from Anglo-Saxon through Middle English to Modern English. Development of the English lexicon. Changes in the pronunciation, syntactic, and semantic systems; discussion of the forms which influenced them.

ENG 4674 Film and Culture CPST WRIN 6ACT (3) AS ENG
Students will be introduced to key concepts and techniques of Film Studies, including the history of film; an examination of film genres; an overview of foreign cinema; and the study of issues of class, race, gender, and sexuality.

ENG 4818 Feminist Digital Humanities (3) AS ENG
A study of the foundational concepts and analytical tools of feminist digital humanities. Students will read feminist authors and literature within a digital humanities framework and conduct digital humanities projects.

ENG 4906 Individual Research (1-4) AS ENG
Directed study in special projects.

ENG 4907 Directed Reading (3) AS ENG
Readings in special topics.

ENG 4935 Honors Seminar I (3) AS ENG
CR: ENG 4936.
Variable topics. Students will be expected to participate in class discussion, make formal presentations, and complete a major research project.

ENG 4936 Honors Seminar II (3) AS ENG
CR: ENG 4935
Variable topics. Students will be expected to participate in class discussion, make formal presentations, and complete a major research project.

ENG 4970 Honors Thesis (3) AS ENG
PR: ENG 4935, ENG 4936.
For students writing English Honors theses.

ENL 3015 British Literature to 1616 (3) AS ENG
A survey of representative prose, poetry, and drama from its beginnings through the Renaissance, including such poems and figures as Beowulf, Chaucer, Malory, More, Hooker, Skelton, Wyatt, Sidney, Spenser, Shakespeare, Donne, and Jonson.

ENL 3016 Studies in 17th and 18th Century British Literature (3) AS ENG
This is a topics course focusing on 17th and 18th century British literature. It satisfies a historical distribution requirement for the English major, LIT, and may be taken more than once for credit.

ENL 3017 Studies in 19th Century British Literature (3) AS ENG
This is a topics course focusing on British Literature primarily of the years 1800-1900. It satisfies a historical distribution requirement for the English major, LIT, and may be taken more than once for credit.

ENL 3026 Studies in Twentieth-Century Literature (3) AS ENG
This is a topics course focusing on Twentieth-Century Literature (British; American; and/or World). It satisfies a historical distribution requirement for the English major, literature track, and may be taken more than once for credit.

ENL 3230 British Literature 1616-1780 (3) AS ENG
A survey of 17th Century and Neoclassical Literature, including such figures as Donne, Herbert, Crashaw, Vaughan, Marvell, Milton, Pope, Swift, Johnson, Boswell, and Goldsmith.

ENL 3251 British Literature 1780-1900 (3) AS ENG
The poetry and poetics of the Romantic figures, with attention to the continuing importance of Romantic thinking in contemporary affairs and letters; a survey of representative figures of the Victorian and Edwardian periods, including poetry, prose, and drama.

ENL 3273 British Literature 1900-1945 (3) AS ENG
Survey of poetry, drama, and fiction of such writers as Eliot, Yeats, Thomas, Conrad, Shaw, Joyce, Lawrence, Huxley, Woolf, Forster, Waugh, Owen, Auden, O'Casey, and others.

ENL 3331 Early Shakespeare (3) AS ENG
A study of from five to eight of Shakespeare's comedies, histories, and early tragedies, ending with Hamlet. Special attention to developing the student's ability to read and interpret the text.

ENL 3332 Late Shakespeare (3) AS ENG
A study of from five to eight of Shakespeare's problem plays, major tragedies, and late romances. Special attention to developing the student's ability to read and interpret the text.

ENL 3334 Shakespeare from an Historical Perspective CAHU HHCP 6ACT (3) AS ENG
This course introduces students to at least six of Shakespeare's plays. The course will focus on artistic elements of the plays; the political, social,
COURSE DESCRIPTIONS

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and intellectual milieu of the period; as well as issues of class, race, and gender. Will not count toward English major.

ENL 4112 Eighteenth-Century British Novel (3) AS ENG
This course studies exemplary British novels from the eighteenth century, the distinctive literary features of the novel in this formative period, and the critical questions surrounding the emergence of this genre.

ENL 4122 19th Century British Novel (3) AS ENG
Study of the 19th-century British novel, including works by novelists such as Thackeray, Dickens, Eliot, Hardy, Trollope, and others. Analysis of the characteristics of the novels and their historical, social, cultural, and political contexts.

ENL 4132 British Novel: Conrad to the Present (3) AS ENG
A critical study of British fiction from 1900 to the present, with emphasis on such writers as Conrad, Lawrence, Joyce, Woolf, Huxley, Orwell, Burgess, Murdoch, Golding, and others.

ENL 4203 Introduction to Old English (3) AS ENG
This course will give students a reading knowledge of the Old English language and introduce them to its literature.

ENL 4303 Selected British Authors (3) AS ENG
The study of two or three major figures in British Literature. The course may include such writers as Fielding and Austen, Keats and Yeats, Joyce and Woolf. Specific topics will vary. May be taken twice for credit with different topics.

ENL 4311 Chaucer (3) AS ENG
An intensive study of The Canterbury Tales and major critical concerns.

ENL 4338 Advanced Studies in Shakespeare (3) AS ENG
PR: ENL 3331 or ENL 3332
Intensive study of selected plays of Shakespeare, with special attention to significant critical issues and to the Elizabethan and Jacobean cultural setting.

ENL 4341 Milton (3) AS ENG
Study of the poetry and major prose of John Milton, with special emphasis on Paradise Lost.

ENL 4501 Studies in Medieval and Early Modern Literature (3) AS ENG
This course will examine specific eras, genres, and authors within medieval and early modern literature.

ENT 3003 Principles of Business in Entrepreneurship (3) BA MKT
Introduction to business principles in entrepreneurship for non-business and non-industrial engineering students. Provides basic foundation in entrepreneurship, finance and accounting. Helps students to understand the role of entrepreneurship in society.

ENT 4014 New Venture Formation (3) BA MKT
PR: ENT 3003 or (MAN 3025 and ACG 2021)
Course for Business and Industrial Engineering students. Integrates business principles with entrepreneurship and venture creation. Synthesizes theoretical and practical aspects of entrepreneurial new business creation.

ENT 4024 Small Business Management - Entrepreneurship (3) BA MAN
Study the factors involved in starting and managing a small to medium sized company. Emphasis on conduct of pre-business feasibility, start-up of business, successful management of firm, and options for succession or termination.

ENT 4424 Fundamentals of Venture Capital and Private Equity (3) BA MKT
PR: ENT 4014.
Elective course for business and industrial engineering students. Integrates basic principles of venture financing through an examination of both venture capital and private equity in entrepreneurial new business creation and growth.

ENV 2073 Global Warming: Science and Politics of a Contemporary Issue CANP (3) EN EGX
Non-technical introduction to the greenhouse effect and how human activities purportedly affect the global climate. Investigation of the relationship between science and the political process. Proposed policies to address global warming.

ENV 4001 Environmental Systems Engineering (3) EN EGX
CR: EGN 3353.
An introduction to various aspects of environmental problems faced by today's society. Topics covered are: air pollution, water pollution, noise pollution, solid waste management, ionizing radiation, disease transmission, and food protection.

ENV 4004 Environmental/Hydraulics Engineering Lab (1) EN EGX
PR: EGN 3353
CR: ENV 4001
Laboratory experience in the measuring of environmental and hydraulic parameters.

ENV 4351 Solid Waste Engineering (2) EN EGX
Introduction to the principles of integrated municipal solid waste management; waste minimization, recycle and disposal options. Design of landfill disposal systems. Course restricted to Civil and Environmental Engineering majors.

ENV 4417 Water Quality and Treatment (3) EN EGX
PR: EGN 3353
An introduction to municipal water supply and waste water treatment. Topics include water requirements and waste volumes, water quality, physical and chemical treatment processes, and advanced wastewater treatment processes.

ENV 4552C Environmental Unit Operations and Processes (3) EN EGX
PR: ENV 4001, ENV 4417

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COURSE DESCRIPTIONS

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Theory, experimental investigation, and modeling of operations and processes in engineered and natural systems. Laboratory evaluation of unit operations and processes used in water and wastewater treatment including chlorination, activated carbon absorption, biological treatment, gas/liquid mass transfer, filtration, coagulation, flocculation, and settling. Application of experimental data to process analysis and design. Field monitoring of surface water quality; simulation of transport and transformation of pollutants in surface waters.

**ENV 5103 Air Pollution Control (3) EN EGX**
PR: EGN 3353.
Behavior and effects of atmospheric contaminants and the principles of making measurements in the air environment. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered.

**ENV 5344 Classroom Management (3) AS BIN**
PR: ENV 5345 and one of the following: ENV 6347, ENV 6519, ENV 6558; Introduction to hazardous waste management and remediation: RCRA regulatory concepts, definitions, aspects of hazardous waste management from within the plant to final disposal. History of hazardous waste cleanup leading to CERCLA and its amendments, site investigations; site control; those aspects of treatment that are unique to remedial action.

**ENV 5345 Solid Waste Control (3) EN EGX**
Introduction to solid waste management, including its definition as an umbrella for hazardous waste: regulatory concepts; waste types, quantities, and characterization; collection and recycling; facility siting; disposal; thermal treatment.

**ENV 5504C Environmental Engineering Processes (3) EN EGX**
PR: ENV 4001, ENV 4004L, ENV 4417
Theory, experimental investigation, and modeling of operations and processes in engineered and natural systems. Laboratory evaluation of unit operations and processes used in water and wastewater treatment including chlorination, activated carbon adsorption, biological treatment, gas/liquid mass transfer, filtration, coagulation, flocculation, and settling. This course is restricted to majors, has no external laboratory section associated with the course, is not available on an S/U basis only, is not cross-listed with another department or college.

**ENV 3004C Introduction to Entomology (4) AS BIN**
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L & CHM 2045, CHM 2046 & MAC 1105 or higher-level MAC course, or STA 2023
An introduction to general aspects of insect morphology, development, and classification. The identification of local forms will be emphasized. Fieldwork required. Lecture and Laboratory.

**ENV 5505C Aquatic Entomology (4) AS BIN**
PR: ENY 3004C and CHM 2210 and MAC 1105 or higher-level MAC course CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.
Taxonomy, development, and ecology of aquatic insects with emphasis on local forms. Fieldwork required. Lecture and Laboratory.

**EPD 5051 Advanced Theories in Motor and Physical Disabilities (3) ED TAL**
PR: EEX 4012
Biological and functional aspects of motor and physical health disabilities, including dysfunctions in central nervous system covering motor, sensory, language and psychological disorders.

**EPD 5321 Educational Strategies for Physically and Multi-handicapped Students (3) ED TAL**
PR: EPD 5051.
Educational management of students with cerebral palsy, motor disabilities and multi-handicapped conditions including rehabilitation and other community services.

**ESC 2000 Introduction to Earth Science CANP (3) AS SGS**
An introductory course in the Earth Sciences. Topics covered include geology, weather, climate change, ocean dynamics, and the history of the Earth, the solar system and beyond.

**ESC 3210 Earth and Space Science Fundamentals (4) AS SGS**
This course is designed to further develop science teachers' understanding of the earth and space sciences commonly found in 6-9 school curricula, with a focus on effective earth and space sciences pedagogy and instructional practice.

**ESC 4705 Geology and Development of Modern Africa (3) AS SGS**
An in-depth look at how geology has affected the politics, history and culture of Africa. Units include the Nile and hydropolitics, deserts and climate, rifting and hominid evolution, and mining and politics.

**ESE 4322 Classroom Management for Diverse School and Society (3) ED TAL**
Focuses on classroom management in secondary schools including classroom climate, specific strategies to address management issues, school safety, violence, diversity, ethics, and educational law.

**ESE 5342 Teaching the Adolescent Learner (3) ED TAL**
Emphasis is placed on adolescent developmental and learning needs linking them to practices in the classroom appropriate to the diverse secondary education population (ESOL, special education, multicultural, at-risk, etc.) in preparation for planning responsive standards-based instruction.

**ESE 5344 Classroom Management for a Diverse School and Society (3) ED TAL**
This course covers practical, theoretical, philosophical and ethical aspects of school and society, the education profession, and secondary
schools with particular focus on classroom management, school violence, school safety, educational law and other critical social issues.

**ESI 4007 Engineering Programming (3) EN EGS**
PR: MAC 2281, with a minimum grade of C (C-not accepted).
A problem based approach to describing programming concepts using Visual Basic for Applications and MS Excel.

**ESI 4221 Statistical Quality Control (3) EN EGS**
PR: EGN 3443.
This course will present the theory and methods of quality monitoring including process capability, control charts, acceptance sampling, quality engineering, and quality design.

**ESI 4244 Design of Experiments (3) EN EGS**
PR: EGN 3443.
Activity forecasting models and control. Design and use of inventory control models, both designs applicable to engineering analyses. Analysis of variance and regression.

**ESI 4312 Deterministic O.R. (3) EN EGS**
PR: COP 2510, EGN 4450.
An introduction to operations research techniques with particular emphasis on deterministic models. Linear programming, dynamic programming, goal programming, integer programming, and PERT/CPM networks are considered.

**ESI 4313 Probabilistic O.R. (3) EN EGS**
PR: COP 2510, EGN 4443.
Probabilistic models in Operations Research. Discrete and continuous time processes, queuing models, inventory models, simulation models, Markovian decision process and decision analysis.

**ESI 4326 Engineering the Supply Chain (3) EN EGS**
Students learn tools to design supply chain networks considering all drivers including: facilities, transportation, inventory, information, sourcing and pricing, as well as techniques to support design, planning and operational decisions in the supply chain.

**ESI 4523 Systems Simulation (3) EN EGS**
PR: ESI 4313.
A study of the development and analysis of computer simulation models: Monte Carlo, time-slice, and next-event. Introduction to special purpose simulation languages.

**ESI 4606 Engineering Analytics I (3) EN EGS**
PR: EGN 3443, ESI 4312.
Engineering Analytics I covers the leading techniques that help to identify and manage key data from business processes. Topics covered include techniques for understanding the meaning of data; cleaning up data; transforming data into information.

**ESI 4607 Engineering Analytics II (3) EN EGS**
PR: ESI 4606.
Engineering Analytics II covers important techniques that help to identify and manage key data from industrial engineering processes. Topics covered include data exploration; date visualization; and large-scale engineering system decomposition.

**ESI 4620 Design of Industrial Information Systems (3) EN EGS**
PR: EGN 3443 and ESI 2009 or COP 2510, or equivalent.
The objective of this course is to introduce students to the design and implementation of information systems, with special emphasis on the integration of information flows and databases with the control of manufacturing and service type systems.

**ESI 4905 Independent Study (1-5) EN EGS**
Specialized independent study determined by the student's needs and interests.

**ESI 5219 Statistical Methods For Engineering Managers (3) EN EGS**
PR: ESI 5219 or equiv., EGN 3443 or equivalent.

**ESI 5236 Reliability Engineering (3) EN EGS**
PR: ESI 5219 or equiv., EGN 3443 or equivalent.

**ESI 5306 Operations Research For Engineering Management (3) EN EGS**
PR: ESI 5219 or equiv.
Linear programming, non-linear programming, queuing, inventory, network analysis.

**ESI 5522 Computer Simulation (3) EN EGS**
PR: ESI 4521 or equiv.
Design of discrete and continuous simulation models. Model validation and verification. Statistical analysis of simulation model output.

**ETG 3612 Operations Management (3) EN ESB**
PR: MAC 1105
CR: STA 2023
This course examines global strategies, project management, forecasting, location, scheduling, human resources, quality and math models as applied to the design and management of industrial operations.

**ETG 3931 Special Topics in Information Technology (1-3) EN ESB**
Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.

**ETG 3933 Selected Topics in Technology (1-3) EN ESB**
Selected Topics in Technology I is repeatable for 12 credit hours.

**ETG 3934 Selected Topics in Technology II (1-3) EN ESB**
Selected Topics in Technology II is repeatable for 12 credit hours.

**ETG 4930 Special Topics in Information Technology (1-3) EN ESB**
### COURSE DESCRIPTIONS

**EUH 3142 Renaissance and Reformation (3) AS HTY**
A history of Europe from the Renaissance to the Thirty Years' War (1400-1618). The cultural, social, and economic characteristics will provide the framework for artistic, philosophical, religious, and political developments.

**EUH 3181 Medieval Culture (3) AS HTY**
A survey of thought, culture, and art in the Middle Ages. Medieval attitudes as manifested in literature, art, philosophy, education, and religion; with emphasis upon Medieval man's changing perception of himself and his world.

**EUH 3185 Viking History (3) AS HTY**
The role of the Vikings in the shaping of Western history. A comprehensive survey of their institutions, outlook and daily life. Viking expansion into Europe and North America.

**EUH 3188 Medieval Society (3) AS HTY**
A study of the daily life and attitudes of the medieval nobleman, peasant, townsmen, and the agrarian-urban economy and society which affected their lives.

**EUH 3189 Medieval Politics (3) AS HTY**
An inquiry into the nature, distribution, and use of political power during the Middle Ages, in such institutions as feudalism, monarchy, cities, and the church.

**EUH 3202 History of 17th and 18th Century Europe (3) AS HTY**
A history of Europe from the beginning of the Thirty Years' War to the outbreak of the French Revolution. Political and intellectual developments will be assessed in the light of society and the economy.

**EUH 3205 History of Nineteenth Century Europe (3) AS HTY**
A comparative study of economic, political, social, and intellectual developments in nineteenth century Europe.

**EUH 3206 History of Twentieth Century Europe (3) AS HTY**
A comparative study of economic, political, social, and intellectual developments in twentieth century Europe.

**EUH 3401 Classical Greece (3) AS HTY**
A study of ancient Greece focusing on the brilliant period following the Persian Wars, but embracing as well the formative Bronze, Middle and Archaic ages, and the decline culminating in the conquest of Greece by Philip II of Macedon in 338 B.C.

**EUH 3402 Age of Alexander (3) AS HTY**
A study focusing on the career of Alexander the Great and on the Greek and Macedonian conquest of Imperial Persia. Also treated are the great hellenistic kingdoms prior to Rome's conquest of the eastern Mediterranean.

**EUH 3412 Roman Empire (3) AS HTY**
A study of the Roman Republic from 509 B.C. to the assassination of Julius Caesar in 44 B.C., with a prelude treating Rome's early development
EUH 3413 Roman Empire (3) AS HTY
A study of Imperial Roman from the assassination of Julius Caesar in 44 B.C. to the death of the emperor Constantine in A.D. 337. Emphasized is Rome’s government of a vast Mediterranean empire including much of the near East and Europe.

EUH 3451 Modern France and its Empire (3) AS HTY
This course is a survey of the history of France and its empire from the eighteenth-century Age of Revolutions until the present.

EUH 3462 German History 1870 to the Present (3) AS HTY
A political, social, and cultural approach to the history of the German Empire from 1870 through the 1970’s. The nation’s two attempts to try for world power status are highlighted, as well as the Weimar Republic, prototype of the embattled democracy.

EUH 3501 British History to 1688 (3) AS HTY
A study of major developments in British history from the 15th century to 1688.

EUH 3502 British History 1688 to Present (3) AS HTY
A study of the major themes of British history since the Glorious Revolution, including social, political, and economic developments leading to the creation of the modern demographic welfare state.

EUH 3533 Celtic History (3) AS HTY
This course will cover the history of the Celtic peoples in the Iron Age, the Roman period, and the early histories of Ireland, Scotland, and Wales in the medieval period.

EUH 3575 History of Imperial Russia, 1689-1917 (3) AS HTY
A survey of social, political, economic, and cultural development in the Russian Empire from Peter the Great to Nicholas II. Topics include the expansion and modernization of the Empire, the culture of the Imperial court, peasant rebellions, social and legal reforms, the role of the West, and the collapse of the Romanov dynasty.

EUH 3576 History of the Soviet Union, 1917-1991 (3) AS HTY
A study of Soviet society under communism from the Revolution to the collapse of the USSR. Topics include the origins and development of revolutionary socialism, the Bolshevik seizure of power, Stalinism and the Great Terror, popular dissent and resistance, the treatment and experience of ethnic minorities, Gorbachev and the dissolution of the Soviet Union.

EUH 3676 Early Christians, Pagans, and Heretics (3) AS HTY
This course provides an overview of the history and theology of Orthodox Christianity. It examines the rise of the early Christian church in the first century AD and explores the eastern Christian Orthodox through the fifteenth century AD.

EUS 3000 Europe (3) AS GIA
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

EUS 3022 Russia (3) AS GIA
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

EVR 2001L Environmental Science Lab (1) AS SGS
A laboratory course linking the human and physical/biological world. The lab will develop an understanding of population and resource interactions and complement the lecture course. Field trips.

EVR 2217 Energy, Environment and Sustainability (3) EN ECH
PR: MAC 1105
A critical analysis of energy sources, distribution and consumption using scientific methodology. Attributes of commonly used energy sources including environmental impact. Social, political and economic implications from a global perspective.

EVR 2861 Introduction to Environmental Policy (3) AS SGS
An introduction to environmental policy using class lectures, student projects, and independent readings. Emphasis will be placed on understanding basic policy mechanisms and major policy actions relating to environmental issues at the local, national and international level.

EVR 4027 Wetland Environments CPST (3) AS SGS
Study of the general properties and ecology of wetlands, examination of the distribution and functions of wetlands, and consideration of wetland conservation and policies.

EVR 4033 Environmental Regulation (3) AS SGS
PR: EVR 2861
An in-depth review of the federal environmental regulatory structure of the United States, governing air and water quality, waste disposal, safety, and natural resource use and conservation.

EVR 4051 Environmental Field Methods (3) AS SGS
PR: STA 2023 or QMB 2100
This course will provide an overview of aspects of conducting environmental research, field experience, the critical analysis of environmental data, and learning the fundamentals of producing a scientifically sound report.
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EVR 4104 Karst Environments (3) AS SGS
PR: EVR 2001
The objective is to provide an understanding of the scientific principles pertaining to karst environments in Florida and around the world. Both physical processes and human interactions/impacts will be examined. Not restricted to majors and not repeatable.

EVR 4114 Climate Change CPST (3) AS SGS
PR: EVR 2001
The objective is to provide an understanding of the scientific principles pertaining to global and regional climate change. Both mechanisms causing the change and human impacts on climate will be examined. Not restricted to majors and not repeatable.

EVR 4163 Forest Ecology and Management (3) AS SGS
PR: EVR 2001 or BSC 2010 or BSC 2101
This course provides instruction on the theories and techniques of forest ecology and management. Topics include: forest ecology, silviculture, forest health, dendrology, and forest measurements.

EVR 4218 Research Methods in Wildlife Ecology (3) AS SGS
Research Methods in Wildlife Ecology will review the ways in which data are collected, analyzed, and reported, so that informed decisions about wildlife management and conservation can be made. The course will have both classroom and field components.

EVR 4807 Sustainable Healthy Environments (3) AS SGS
This course examines the human health impacts of our daily activities in a modern world, with a focus on more sustainable options for improving human health.

EVR 4900 Directed Readings (1-6) AS SGS
To provide advanced students with interdisciplinary research experience in areas of specific interest.

EVR 4905 Independent Study (1-6) AS SGS
To provide advanced students with the opportunity for independent study in areas of specific interest.

EVR 4910 Environmental Science and Policy Project (3-12) AS SGS
Environmental science project consisting of research in a field related to environmental science/environmental policy. Supervised by a faculty member. Contract and report required.

EVR 4921 Environmental Science and Policy Seminar (1) AS SGS
A topical reading and discussion seminar focusing on the interdisciplinary nature of environmental science and environmental policy.

EVR 4930 Selected Topics (1-3) AS SGS
Each topic is a course under the direction of a faculty member with the content depending on the interests of the students and faculty involved. All areas of Environmental Science, Policy, Ethics and Law included.

EVR 4940 Environmental Science Internship (3-12) AS SGS
The purpose of this course is to promote the student's understanding and application of environmental science and policy within a practical organizational context. Contract and report required.

EVT 4651 Equity in Schools and the Workplace CPST 6ACT (3) ED LCA
Examine equity issues related to gender, race, culture, economics in schools/workplaces. Explore legal, ethical, psychological, social perspectives including stereotyping, prejudice and discrimination for personal implications and systems change.

EVT 4940 Internship: Industrial-Technical Education (1-12) ED LCA
CR: EVT 4936
One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9-12 semester hours.

EVT 4946 Supervised Field Experience: Industrial-Technical Education (1-6) ED LCA
Planned supervised functions in the area of specialization and coordinated with selected schools, government, offices, social agencies, businesses and industries on site.

EXP 4104 Sensory Processes (3) AS PSY
PR: PSY 3213 with a grade of C or better
Available to both majors and non-majors. Psychophysical and neurophysiological data and theory underlying sensory processes. Visual, auditory, chemical, and somatosensory systems, with particular emphasis on visual processes.

EXP 4204C Perception (3) AS PSY
PR: PSY 3213 with a grade of C or better
Topics include sensory and physiological bases of perception and how people process relevant information in their environments.

EXP 4304 Motivation (3) AS PSY
PR: PSY 3213 with a grade of C or better
A survey of motivational processes and mechanisms from physiological and psychological viewpoints.

EXP 4404 Psychology of Learning (3) AS PSY
PR: PSY 3213 with a grade of C or better
Survey of methods, empirical findings, and theoretical interpretations in conditioning and instrumental learning.

EXP 4640 Psychology of Language (3) AS PSY
PR: PSY 3213
Historical survey of relations between psychology and linguistics leading to the emergence of psycholinguistics as a field of study. The current status of theory and research in the field will be covered.

EXP 4680C Cognitive Psychology (3) AS PSY
COURSE DESCRIPTIONS

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FIN 3403 Principles of Finance (3) BA FIN
PR: ECO 2013.
Study of factors affecting international business, assessment of risks, international managerial finance, institutions and instruments of international business finance.

FIN 4128 Personal Financial Planning Process and Development (3) BA FIN
PR: FIN 4504 with a minimum grade of C, RMI 4135 with a minimum grade of C
CR: FIN 4132
This course is a major capstone class that examines professional issues in financial planning, including: ethical considerations; regulation and certification requirements; written and oral communication skills; and professional responsibility.

FIN 4132 Estate Planning (3) BA FIN
PR: TAX 4001 with a minimum grade of C, FIN 3144 with a minimum grade of C
This course focuses on the fundamentals of estate planning, including the social and family implications of federal/state taxation of transfers of
FIN 4303 Financial Institutions and Markets (3) BA FIN
PR: FIN 3403, with a grade of C
A study of financial institutions and their roles in the capital markets; includes the savings allocation, investment, and financial decision making processes.

FIN 4324 Bank Management (3) BA FIN
PR: FIN 3403, with a grade of C
Application of traditional finance concepts to the management of commercial banks with emphasis on decision making and problem-solving techniques to major problem areas in banking.

FIN 4412 Working Capital Management (3) BA FIN
PR: FIN 3403, with a grade of C
An examination of short-term financial management - that is, policies and decisions related to managing the current operations of a firm. Topics to be covered include cash management, credit and collection policy, inventory decisions, and sources of short-term financing.

FIN 4414 Advanced Corporation Finance (3) BA FIN
PR: FIN 3403, with a grade of C
An examination of the financial policies of corporations, with special reference to dividend policy, financial structure, capital expenditures, acquisitions, mergers, and reorganizations.

FIN 4443 Financial Policies and Strategies (3) BA FIN
PR: FIN 4414 or FIN 4504, with a grade of C-
A senior seminar for majors in Finance. Primarily a case course examining financial policies and the application of financial analysis to alternative strategies.

FIN 4461 Financial Statement Analysis (3) BA FIN
PR: FIN 3403, with a grade of C
Provides an understanding of the relationship between financial statements produced in accordance with GAAP and the informational content such statements provide. After completing the course, the student should have a better understanding of the usefulness of published financial statements to various users in a variety of circumstances.

FIN 4504 Principles of Investments (3) BA FIN
PR: FIN 3403, with a grade of C
Survey of the risks and returns of investment media in relation to the investment objectives of individual and institutional investors. Includes an examination of the capital markets, information flows, and analytical techniques in terms of their impact on the valuation process.

FIN 4514 Advanced Investment Analysis and Management (3) BA FIN
PR: FIN 4504.
A comprehensive study of security analysis and portfolio management. The course will utilize a quantitative approach to investment selection and management.

FIN 4533 Financial Option & Futures (3) BA FIN
PR: FIN 4504.
This course covers financial futures and options markets, the fundamental properties and pricing principles of these instruments, as well as hedging and risk management strategies using such instruments. The course is not repeatable for credit.

FIN 4560 Applied Securities Analysis (3) BA FIN
PR: FIN 4504.
In this course students manage a portfolio of real money, which provides them hands-on experiences in stock analyses, decision making, and effective communication. Students also network with investment professionals. Repeatable for up to 6 credit hours.

FIN 4905 Independent Study (1-3) BA FIN
Specialized independent study determined by the student's needs and interests.

FIN 4915 Independent Research (1-3) BA FIN
The research project will be mutually determined by the student and instructor.

FIN 4934 Selected Topics in Finance (1-3) BA FIN
Topics to be selected by instructor and department chairperson on pertinent finance issues.

FIN 4940 Finance Internship (3) BA FIN
The research project will be mutually determined by the student and instructor.

FIN 4970 Finance Honors Thesis WRIN 6ACT (3)
This course is the climax of an undergraduate learning experience comprised of at least 120 hours of on-site experience.

FIN 4970 Finance Internship (3) BA FIN
A senior seminar for majors in Finance. Primarily a case course examining financial policies and the application of financial analysis to alternative strategies.

FIN 4970 Finance Honors Thesis WRIN 6ACT (3)
A senior seminar for majors in Finance. Primarily a case course examining financial policies and the application of financial analysis to alternative strategies.

FLE 4290 Technology in the Foreign and Second Language Classroom (3) ED TAL
This course prepares pre-service and in-service teachers to infuse technology into foreign language and ESOL instruction. Students will develop technology skills and knowledge based on sound pedagogical principles that reflect research and theory in Second Language Acquisition and will apply this practical and theoretical knowledge to K-16 Foreign Language/ESOL instructional situations.

FLE 4314 Methods of Teaching Foreign Languages and ESOL in the Elementary School (3) ED TAL
CPR: EDG 4620
Methods of planning and teaching foreign languages in the elementary school. The
emphasizing is on teaching communicatively and on integrating culture in the K-6 classroom.

**FLE 4316 Language Principles and Acquisition (1-3) ED TAL**
PR: FLE 4317.
Overview of applied Second Language Acquisition theory and the components of language, linking them to methods and techniques of providing comprehensible instruction and supporting the development of oral proficiency and literacy skills for (LEP) children.

**FLE 4317 Teaching Students with Limited English Proficiency (3) ED TAL**
This course is designed to prepare preprofessional teachers to provide linguistically and culturally appropriate instruction, assessment, and learning opportunities for students with Limited English Proficiency.

**FLE 4333 Methods of Teaching Foreign Languages and ESOL in the Secondary School (3) ED TAL**
PR: FLE 4314
Methods of teaching foreign languages within a communicative framework. Includes examination and practice of current instructional techniques in listening, speaking, reading, and writing skills, testing, error correction, and computer assisted language instruction. The emphasis is on teaching foreign languages and teaching for cultural understanding at the secondary level 7-12.

**FLE 4370 Practicum in Foreign Language Teaching in the Secondary School (3) ED TAL**
CR: FLE 4314 or FLE 4333
Pre-internship field experience in a K-12 environment. Will include observation and practice in a K-12 classroom as well as class meetings.

**FLE 4390 Teaching Foreign/Second Languages (3) AS WLE**
Comprehensive review of teaching foreign and second languages. Practical overview of methods to teach reading, writing, speaking, and listening.
The course is open to non-majors.

**FLE 4936 Senior Seminar in Foreign Language Education CPST (3) ED TAL**
Synthesis of teacher candidate's courses in complete college program.

**FLE 4940 Internship: Foreign Language Education (1-12) ED TAL**
One full semester of internship in a public or private school.

**FLE 5145 Language Principles, Acquisition and Teaching (3) ED TAL**
PR: FLE 5345
Restricted to Education majors and not repeatable for credit. Overview of applied SLA theory and components of language. Methods & techniques of comprehensible instruction and the development of oral proficiency and literacy skills for LEP children.

**FLE 5291 Technology in the Foreign Language Classroom (3) ED TAL**
PR: FLE 5313 and FLE 5331.
This course is intended to prepare foreign/second language teachers to provide pedagogically sound and technologically enhanced instruction for foreign language and second language students in the K-16 realm. Basic computer literacy is recommended.

**FLE 5313 Methods of Teaching Foreign Language and ESOL in the Elementary School (3) ED TAL**
This course is designed to provide training in the theory and methods of teaching foreign languages and ESOL in the elementary school (FLES) to both pre- and in-service teachers.

**FLE 5331 Methods of Teaching Foreign Language and ESOL in the Secondary School (3) ED TAL**
PR: FLE 5313
This course provides for the development of knowledge and skills necessary to prepare students to assume roles as foreign language (FL) and ESOL teachers at the secondary school level. It represents the second part of a sequence of methods courses.

**FLE 5345 Teaching English Language Learners K-12 (3) ED TAL**
This course is restricted to Education majors and is not repeatable for credit. It is designed to prepare preprofessional teachers to provide linguistically and culturally appropriate instruction, assessment, and learning opportunities for LEP students.

**FLE 5366 ESOL Education in Content Areas (3) ED TAL**
Enables participants to meet the special linguistic & cultural educational needs of limited English proficient (LEP) students in content area classes. Provides a theoretical & practical foundation for ESOL competencies in courses include ESOL infusion.

**FLE 5895 Dual Language Education (3) ED TAL**
This course is for teachers who are interested in bilingual education. The aim is to deconstruct the philosophical, theoretical, political, social and educational underpinning of instruction (K-16) when it is delivered through two languages.

**FLE 5946 Practicum in Foreign Language/ESOL Teaching (3) ED TAL**
PR: FLE 5313
CR: FLE 5331
This course prepares students for their internship by providing a structured pre-internship experience while meeting regularly in a university class. Opportunity to see teachers in action.

**FOL 2100 General Foreign Language I (1-4) AS WLE**
A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less commonly taught languages or in professional translation.

**FOL 4102 General Foreign Language II (1-3) AS WLE**
### COURSE DESCRIPTIONS

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRE 2200</td>
<td>French III (3) AS WLE</td>
<td>PR: FRE 2200 or equivalent.</td>
<td>Development of intermediate conversational skills through a comparative cultural approach. Students build vocabulary, oral syntax, and enhance fluency while examining socio-cultural realities in France and Francophone countries.</td>
</tr>
<tr>
<td>FRE 2201</td>
<td>French IV (3) AS WLE</td>
<td>PR: FRE 2200 or equivalent.</td>
<td>Readings in French on the intermediate level.</td>
</tr>
<tr>
<td>FRE 2240</td>
<td>Intermediate Spoken French in Cultural Context (3) AS WLE</td>
<td>PR: FRE 2241 or equivalent.</td>
<td>Continuing development of intermediate conversational skills through a comparative cultural approach. Students build vocabulary, oral syntax, and enhance fluency while examining socio-cultural realities in France and Francophone countries.</td>
</tr>
<tr>
<td>FRE 2270</td>
<td>Overseas Study-Intro. French (1-6) AS WLE</td>
<td>PR: Two semesters of university-level French</td>
<td>Intensive language study in France.</td>
</tr>
<tr>
<td>FRE 3234</td>
<td>Reading in French Literature and Culture (3) AS WLE</td>
<td>PR: FRE 2201 or equivalent.</td>
<td>Development of writing skills in French through a wide variety of cultural context. Students analyze texts relating to descriptions of persons, places and events, films and fiction, publicity, and argumentation. Workshops facilitate their writing.</td>
</tr>
<tr>
<td>FRE 3340</td>
<td>French For Business (3) AS WLE</td>
<td>PR: FRE 2200 or equivalent.</td>
<td>An introduction to the French language in ordinary business transactions.</td>
</tr>
<tr>
<td>FRE 4392</td>
<td>African Images in Francophone Film (3) AS WLE</td>
<td>PR: Two semesters of university-level French</td>
<td>A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less commonly taught languages or for workshops in professional interpreting.</td>
</tr>
<tr>
<td>FOL 4905</td>
<td>Directed Study (1-3) AS WLE</td>
<td>Departmental approval required.</td>
<td>Directed study.</td>
</tr>
<tr>
<td>FOL 4906</td>
<td>Directed Study (1-3) AS WLE</td>
<td>PR: FOL 4101 or equivalent.</td>
<td>Directed study.</td>
</tr>
<tr>
<td>FOT 4131</td>
<td>Understanding World Cultures (3) AS WLE</td>
<td>PR: HUN 2201</td>
<td>In “Understanding World Cultures” students will encounter and explore the characteristics and features of historical and contemporary cultures of the world through the critical analysis of aesthetic production.</td>
</tr>
<tr>
<td>FRE 1170</td>
<td>Overseas Study-Elem. French (4) AS WLE</td>
<td>PR: FRE 1120 or equivalent.</td>
<td>A continuation of FRE 1120.</td>
</tr>
<tr>
<td>FRE 1220</td>
<td>French III (3) AS WLE</td>
<td>PR: FRE 1121 or equivalent.</td>
<td>A review of the basic structure of French.</td>
</tr>
<tr>
<td>FRE 1121</td>
<td>Beginning French II (4) AS WLE</td>
<td>PR: FRE 1120 or equivalent.</td>
<td>The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking and reading.</td>
</tr>
<tr>
<td>FRE 1120</td>
<td>Beginning French I (4) AS WLE</td>
<td>PR: FRE 1120 or equivalent.</td>
<td>The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking and reading.</td>
</tr>
<tr>
<td>FRE 2241</td>
<td>Spoken French in Cultural Context (3) AS WLE</td>
<td>PR: FRE 1121</td>
<td>Development of basic conversational skills in French through a wide variety of cultural context. Students build vocabulary, enhance listening comprehension and fluency in French as they examine socio-cultural realities and issues.</td>
</tr>
</tbody>
</table>
**COURSE DESCRIPTIONS**

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**FRE 5425 Advanced Written Expression (3) AS WLE**  
PR: FRE 4421, or equivalent.  
Course is designed to give advanced training in free composition in French.

**FRE 5566 Contemporary France (3) AS WLE**  
PR: FRE 3500 or equivalent  
An advanced course in French civilization and culture including a study of recent social, artistic and political trends as well as various current intellectual movements. Text and discussions in French.

**FRT 3001 Great French Love Stories in Translation WRIN 6ACT (3) AS WLE**  
PR: ENC 1101 and 1102 or their equivalent.  
A survey of the great love stories that French literature gave to the world from the Middle Ages to the 21st century and that contributed to the evolution of love, influencing not only other literatures but also other cultures throughout history.

**FRT 3140 French Literary Masterpieces in English Translation WRIN 6ACT (3) AS WLE**  
PR: ENC 1101 and 1102 or their equivalent.  
A survey of the major literary works of France, tracing not only literary but also intellectual and cultural history from the Middle Ages to the present.

**FRW 4100 The French Novel (3) AS WLE**  
PR: FRE 3234, FRE 3420  
Study of the most representative novels from the 17th - 20th centuries in France, examining literary movements, ideas, and techniques. Course taught in French.

**FRW 4101 Introduction to French Drama and Poetry (3) AS WLE**  
PR: FRE 3234.  
A study of the history of drama and poetry. Will include medieval drama, Racine, Corneille, Moliere, Anouilh, Sartre, Ionesco and others. Will also include Villon, Ronsard, DuBellay, Lamartine, Hugo, Vigny, Musset, Baudelaire, Mallarme, Rimbaud, Valery, Peguy, Eluard, Apollinaire, Char, and others. Course content may vary from year to year. Course taught in French.

**FRW 5222 Classical Prose and Poetry (3) AS WLE**  
PR: FRW 4101.  
Emphasis on Malherbe, Descartes, Pascal, La Fontaine, and Boileau.

**FRW 5226 20th Century Poetry and Theatre (3) AS WLE**  
PR: FRW 4101.  
Valery, Claudel, Anouilh, Motherland, Sartre, Ionesco.

**FRW 5286 The 20th Century Novel (3) AS WLE**  
PR: FRW 4100.  
Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.

**FRW 5314 Classical Drama (3) AS WLE**  
PR: FRW 4101.  
Corneille, Moliere, and Racine.

**FRW 5415 Literature of the Middle Ages (3) AS WLE**  
PR: FRW 4100 or FRW 4101.  
Major genres, including epics, Arthurian romances, drama and lyric poetry. Reading in modern French translation.

**FRW 5425 Literature of the Renaissance (3) AS WLE**  
PR: FRW 4100 or FRW 4101.  
A study of Renaissance French humanism including Rabelais, Montaigne, and Pleiade poets.

**FRW 5445 18th Century Literature (3) AS WLE**  
PR: FRW 4100.  
The classical tradition and the new currents of thought in the Age of Enlightenment.

**FRW 5535 Romanticism and Early Realism (3) AS WLE**  
PR: FRW 4101.  
A study of the romantic and early realistic movements with emphasis on Lamartine, Vigny, Musset, Hugo, and Balzac.

**FRW 5556 Naturalism and Realism (3) AS WLE**  
PR: FRW 4101 or FRW 4101.  
A detailed study of realism and naturalism with emphasis on Flaubert, Zola, les Goncourt, Maupassant, and Daudet.

**FRW 5745 French Literature of Quebec (3) AS WLE**  
Overview of the main representative literary works in French in all genres (poetry, drama, novel, short story) as well as a survey of the main traits of Quebec history & culture. Open to non-majors. Not repeatable for credit. Taught in French.

**FRW 5755 African and Caribbean Literature (3) AS WLE**  
An overview of the main representative literary works in French in all genres (poetry, drama, novel, short story) as well as a survey of the main traits of Quebec history & culture. Open to non-majors and not repeatable for credit. Course taught in French.

**FRW 5829 An Introduction to Modern French Literary Criticism (3) AS WLE**  
A graduate elective 3 credit course entirely taught in French, which offers a survey of the main trends and methods in 20th Century literary criticism, the French having been at the avant-garde of the field.

**FRW 5934 Selected Topics (1-3) AS WLE**  
Study of an author, movement or theme.

**GEA 2000 World Regional Geography CAGC (3) AS SGS**  
Comparison and analysis of representative regions of the world, with emphasis on cultural, political, economic, environmental, and physical diversity.

**GEA 3194 Regional Geography (3) AS SGS**  
Variable title course to systematically study and compare special regions identified by the instructor.

**GEA 3405 Geography of Latin America 6ACT (3) AS SGS**
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Systematic geographic analysis of the Latin American world region, with emphasis on its cultural, political, economic, environmental, and physical diversity.

GEA 3500 Geography of Europe 6ACT (3) AS SGS
Systematic geographic analysis of the European world region, with emphasis on its cultural, political, economic, environmental, and physical diversity.

GEA 3703 Geography of Asia (3) AS SGS
Systematic geographic analysis of the Asian world region, with emphasis on its cultural, political, economic, environmental, and physical diversity.

GEB 2098 Business Honors Professional Development I (1) BA QMB
Students are provided the opportunity to come together and learn more about the university and college programs, understand the various business disciplines and develop professional skills necessary in their career.

GEB 2099 Business Honors Professional Development II (1) BA QMB
PR: GEB 2098
This course is designed to provide students in the Business Honors Program (BHP) with the opportunity to learn the distinct features of professional development and critical analysis of business development through discussion of Harvard Business articles.

GEB 2350 Doing Business Around the World (3) BA QMB
This course introduces the student to: 1) the nature of international business; 2) the framework of international organizations and the monetary system within which international business functions; 3) forces affecting international business, and 4) management responses to problems caused by international environments.

GEB 2935 Selected Topics in Business (1-3) BA QMB
Topics to be selected by department chairs.

GEB 3033 Business Workplace Skills and Best Practices (3) BA QMB
PR: ENC 1102 with a minimum grade of C-
This course prepares students for success in the business world. It addresses the most frequently cited set of skills employers seek when hiring employees.

GEB 4094 Professional Development: Career Transition (2) BA QMB
This course will help prepare students for summer jobs, internships, and their future careers. The topics covered will be useful in gaining employment and include: resume building, cover letter writing, interviewing tips, networking skills.

GEB 4097 Professional Development: Interpersonal Communication (2) BA QMB
This course will provide students the opportunity to learn the distinct features of professional development focusing on interpersonal communication. Such topics as: negotiations, conflict resolution, basic money mastery skills will be addressed.

GEB 4890 Strategic Management and Decision Making CPST (3) BA GBA
PR: FIN 3403, MAN 3025, MAR 3023.
This capstone course focuses on helping students develop a top-level executive perspective on managing a business, and requires students to integrate the theoretical and functional area concepts, principles, and skills learned in previous coursework.

GEB 4905 Independent Study (1-3) BA GBA
Specialized independent study determined by the student's needs and interests.

GEB 4915 Independent Research (1-4) BA GBA
Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

GEB 4935 Selected Topics in Business Administration (1-3) BA GBA
The content and organization of this course will vary according to the current interests of the faculty and needs of students.

GEO 3970 General Business Honors Thesis WRIN 6ACT (3) BA GBA
This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

GEO 1930 Geography of Current Events (3) AS SGS
Application of basic geographic principles to the analysis of contemporary events in various parts of the world.

GEO 2200 Introduction to Physical Geography CANP (3) AS SGS
This course explores the principles of physical geography; maps; earth sun relationships; meteorological, hydrological, pedagogical, aeolian, and glacial processes, and resulting landforms.

GEO 2200L Introduction to Physical Geography Lab (1) AS SGS
CR: GEO 2200.
Laboratory portion of Introduction to Physical Geography (GEO 2200).

GEO 2400 Human Geography CAGC (3) AS SGS
Human geography encompasses those branches in geography which focus primarily upon the relationships between humans and the environments they construct. This course will examine the object of study of human geography, as well as explore many of the components of human geography, including economic geography, geopolitics, cultural geography, urban geography, population geography, and the relationships between geography and globalization.

GEO 2931 Special Topics (1-3) AS SGS
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Topics are at the discretion of the instructor. This course will offer lower level topics to attract new majors.

GEO 3164C Research Methods in Geography (3) AS SGS
PR: STA 2023 or STA 2122 or QMB 2100
Introduction to general principles that govern hydrologic processes. Approaches to hydrologic analyses to water-resource management issues are examined.

GEO 3602 Urban Geography (3) AS SGS
PR: GEO 2400
Spatial analysis of urban areas; growth, location, spacing, and size. Development, site, situation, internal structure, and hinterland are considered.

GEO 4114C Geographic Techniques and Methodology (3) AS SGS
PR: GIS 3006 and GEO 3164C
Selected topics in various geographic techniques and methodologies and their application.

GEO 4204C Topics in Physical Geography (3) AS SGS
PR: GEO 2200
Intensive study of a topic selected from physical geography.

GEO 4210 Process Geomorphology (3) AS SGS
PR: GEO 2200 or GLY 2010
Origin, evolution, and distribution of the landforms of North America.

GEO 4244 Tropical Meteorology (3) AS SGS
PR: GEO 2200, one approved Calculus course
This course examines the tropical atmosphere, its interaction with land and ocean, as well as weather and climate phenomena that are unique to the topics. Students will take an in-depth look at hurricane climatology, the El Nino and Southern Oscillation phenomenon, thunderstorms and lightning, satellite remote sensing, monsoons, sea-breeze convergence and Florida climatology, surface energy exchange, land use change and its impact on tropical climates.

GEO 4265 Soil Genesis and Classification (3) AS SGS
PR: GEO 2200 or GLY 2010 or CI
A systematic study of soil genesis and classification with a focus on North American and Florida soils.

GEO 4284 Water Resources Management (3) AS SGS
Geographic perspectives on water resources management at the global, national and local scale, including political, socio-economic, technical and scientific aspects.

GEO 4300 Biogeography (3) AS SGS
PR: GEO 2200 and GEO 3164C
Analysis of the present and past distribution of species at an intermediate to large spatial scale.

GEO 4340 Natural Hazards GCPC (3) AS SGS
Examination of the physical, social, economic, political and cultural forces that create the phenomena of natural hazards. Case studies from around the world will include floods, droughts, tornadoes, hurricanes, freezes, heat waves, wildfires, earthquakes, tsunami, and volcanoes.

GEO 4372 Global Conservation 6ACT (3) AS SGS
The distribution, exploitation, and conservation of physical and human resources, ecology.

GEO 4379 Geographic Perspectives on Environment (3) AS SGS
PR: GEO 3164C
This course examines human ideas about the natural environment and the fundamental character of the human-nature relationship across space and time through a survey of literature (geography, environmental history, ethics) on environmental perspectives.

GEO 4411 Cultural Geography (3) AS SGS
PR: GEO 2400
The interrelationships of culture and nature, from ancient times to the present.

GEO 4471 Political Geography (3) AS SGS
PR: GEO 2400
The geographic factors underlying political decisions and influencing their outcome; the geographic consequences of these decisions; geopolitics.

GEO 4502 Economic Geography (3) AS SGS
PR: GEO 2400
The spatial organization of economic production, consumption, and exchange systems.

GEO 4604 Topics in Urban Geography (3) AS SGS
PR: GEO 3602
Intensive examination of issues such as economic restructuring and inner-city decline, ghetto formation, gentrification, transportation, and policy-making.

GEO 4700 Transportation Geography (3) AS SGS
PR: GEO 2400 and GEO 3164C
General concepts related to the movement of goods and people, with particular emphasis on spatial principles and urban transportation problems and planning.

GEO 4900 Directed Reading (1-4) AS SGS

GEO 4910 Individual Research (1-4) AS SGS

GEO 4930 Selected Topics (1-3) AS SGS
Topics are at the discretion of the instructor. This course will offer upper level, advanced topics in all aspects of Geography. Course can be repeated for credit as long as the title is different, for up to 8 credits.

GEO 4933 Geography Colloquium (1) AS SGS
Weekly topical lectures by faculty and outside speakers. Students will develop a plan for their professional or graduate careers.

GER 1120 Beginning German I (4) AS WLE
## Development of basic skills in listening and reading comprehension, speaking and writing of German.

**GER 1121 Beginning German II (4) AS WLE**  
PR: GER 1120 or equivalent.  
Continued development of basic skills in listening and reading comprehension, speaking and writing German.

**GER 2200 German III (3) AS WLE**  
PR: GER 1121 or equivalent.  
A review of the basic structure of spoken and written German. May be taken concurrently with GER 2201.

**GER 2201 German IV (3) AS WLE**  
PR: GER 1121 or equivalent.  
Readings in German on the intermediate level. May be taken concurrently with GER 2200.

**GER 2240 Conversation I (3) AS WLE**  
PR: GER 1121.  
For development of basic conversational skills.

**GER 3333 German Language & Culture through Film (3) AS WLE**  
PR: GER 2200 or above.  
This is a German conversation course which allows students to improve upon their German speaking, reading, and listening skills. German films will be used as the basis for oral communication practice. The language of instruction is German. German speaking, reading, and listening skills. German films will be used as the basis for oral communication practice. The language of instruction is German.

**GER 3420 Composition I (3) AS WLE**  
A fundamental course for students who have completed GER 2200 or GER 2201.

**GER 3440 German for Business and International Trade (3) AS WLE**  
PR: GER 2200  
An introduction to the German language in ordinary business transactions.

**GER 3500 The Germans - Past and Present (3) AS WLE**  
PR: GER 2200 or GER 2201  
Survey of German cultural history.

**GER 3501 Urban Life & Culture in Germany (3) AS WLE**  
A language and culture course taught in German that will explore the most important cities located in Germany with an emphasis on contemporary urban life and culture. It will improve speaking, reading, and listening skills and cultural competency.

**GER 3573 Cultural Observations in Germany (3) AS WLE**  
This course allows students to experience Germany from a cultural/historical perspective and gives them insights into a city’s significance within Germany as a whole. It also includes an emphasis on German language use and cultural practices.

**GER 4410 Conversation II (3) AS WLE**  
Free conversation based on the current German idiom.

**GER 4421 Composition II (3) AS WLE**  
Practical training in modern German usage and differences of style.

**GER 5845 History of the German Language (3) AS WLE**  
A diachronic approach to the study of the German language. The course traces the history and development of the language from Indo-European through Germanic, Old, Middle, and New High German.

**GET 3103 German Literature in English Translation (3) AS WLE**  
Analysis and interpretation of selected major works of German literature, to be read in English, with regard to their thought content and relevance to our thoughts and actions.

**GET 3522 Fantastic Films of Early German Cinema (3) AS WLE**  
An overview of early 20th century German films with emphasis on horror, science fiction, and fantasy films. Course offers insights into Germany's artistic, intellectual, and social history, as well as general film history and criticism. Taught in English.

**GET 3524 German Popular Film (3) AS WLE**  
Overview of films with significant popular success at German box office from 1920s to present. Films will be discussed in the context of Germany’s artistic, intellectual, and social history as well as general film history and criticism. Taught in English.

**GET 3528 German Directors in Hollywood CPST HHCP (3) AS WLE**  
This course examines films by German émigré directors produced in Hollywood throughout the twentieth and twenty-first centuries.

**GET 4523 New German Cinema to Present (3) AS WLE**  
An overview of post-1945 Ger films with emphasis on films from New Ger Cinema (1960s-early 80s) & its aftermath. Course offers insights into Germany’s artistic, intellectual, and social history as well as general film history and criticism. Taught in Eng.

**GET 4528 German Literature in English Translation (3) AS WLE**  
Survey of German literature with emphasis on major authors and movements from the 9th to the early 19th century, exposing significant moments in German literature and thought and
exploring diverse perspectives on German culture and society. Course taught in German. Not repeatable.

**GEY 4101 Survey of German Literature II (3) AS WLE**
Course will examine a variety of texts from the 19th century to the present, exposing significant moments in German literature and thought and exploring diverse perspectives on German culture and society. Course taught in German. Course not repeatable.

**GEY 4750 Women in Contemporary German Literature and Film (3) AS WLE**
PR: GER 2200 or above
This course serves as an introduction to contemporary literary works and films by women writers and directors from German speaking countries. It will examine the works based on feminist literary and cultural theory.

**GEY 4900 Directed Study (1-3) AS WLE**

**GEY 4930 Selected Topics (1-3 ) AS WLE**
Study of an author, movement or theme.

**GEW 5606 Faust (3) AS WLE**
Sources, form, content, and literary significance of Urfaust and Faust.

**GEW 5934 Selected Topics (1-3) AS WLE**
Study of an author, movement or theme.

**GEY 2000 Introduction to Aging Sciences CASB (3) BC GEY**
This course is designed to be an introduction to the study of aging. The aging process is viewed from a multi-disciplinary perspective including the biological, psychological, and sociological aspects of aging.

**GEY 3323 Community Resources for the Older Adult (3) BC GEY**
This class is designed to introduce students to services available to older adults and to careers in the field of Aging Services. Content includes theoretical and practical issues, as well as exposure to opportunities for service and employment.

**GEY 3601 Physical Changes and Aging (3) BC GEY**
A survey of normal and pathological physical changes occurring from middle age through older age. Course emphasis will be on basic age-related changes and their implications for behavior in older age.

**GEY 3625 Sociological Aspects of Aging CASB (3) BC GEY**
Consideration of human aging in a broad sociocultural context. Course emphasis will be on historical, philosophical, and demographic aspects of aging, theories of social gerontology, attitudes toward aging and the aged, and cross-cultural perspectives.

**GEY 4101 Aging in Special Populations (3) BC GEY**
This course explores how special populations (centenarians; the severely mental ill, homeless older adults; LGBT older adults; older adults with HIV/AIDS; and older offenders) age differently with specific attention paid to their health care needs.

**GEY 4102 Aging in Modern Literature and Film WRIN 6ACT (3) BC GEY**
This class focuses on late 20th century and early 21st century literature and film to explore gender, ethnicity, creativity, social class, caregiving, and many other critical aging issues. Not restricted to majors.

**GEY 4104 Healthy Global Aging GCPC (3) BC GEY**
This course challenges students to understand health and wellness for older adults in a global context at a time when the global population is aging.

**GEY 4231 Elder Abuse and Neglect (3) BC GEY**
The purpose of this class is to provide students with a basic understanding of the problem of elder abuse and neglect found within the community and in congregate facilities. Interdisciplinary approaches to intervention are emphasized.

**GEY 4322 Care Management for Older Adults (3) BC GEY**
This course examines the role and function of care management in meeting the needs of older adults. All aspects of care management practice are covered, including the elements of the case management process as well as ethical and legal issues.

**GEY 4360 Counseling for Older Adults (3) BC GEY**
An introduction to the study of the major mental health problems of older adults. Current approaches to counseling older adults in community and institutional settings are discussed.

**GEY 4401 Research Methods in Aging (3) BC GEY**
PR: STA 2122 or equivalent with a grade of C or better.
Methods and techniques of social research in gerontology. Design of gerontological studies, collection and analysis of data, interpretation of results, and preparation of reports.

**GEY 4475 Program Evaluation in an Aging Society (3) BC GEY**
Students develop knowledge of the purposes of evaluation research and the approaches and methodologies necessary to evaluate aging services programs and organizations.

**GEY 4507 Understanding Policies and Practices of Long Term Care CPST (3) BC GEY**
PR: GEY 2000
This course provides principles for managing disability in a variety of settings. Topics include historical context, experience of disability, and challenges of providing care for disabled persons. Course is repeatable and not restricted to GEY majors.

**GEY 4508 Health Care Operations (3) BC GEY**
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GEY 4507, ACG 2021, each with a grade of C or better.
This course addresses the health care operations of long-term care facilities. This course is for students in the BS in long-term care administration, but not limited to GEY majors. The course is repeatable for credit.

GEY 4509 Regulatory and Clinical Operations (3) BC GEY
PR: GEY 4508, ACG 2021, each with a grade of C or better.
This course will familiarize the student with the basic aspects of nursing home administration through the practical application of management theory and concepts. The course is not repeatable and not restricted to GEY majors.

GEY 4520 Legal Aspects of Health Care Administration (3) BC GEY
This web-based course presents an overview of the legal issues facing the health care industry and provides special emphasis on long-term care settings. It provides students with a basic working knowledge of legal system and court processes.

GEY 4608 Alzheimer’s Disease Management (3) BC GEY
PR: GEY 2000 or GEY 3326.
This course will provide instruction on effective approaches for providing care to persons with Alzheimer’s Disease and related disorders in residential and home care settings. The major dementing disorders and typical behaviors presented by patients are presented along with strategies for successful behavior management. Building a dementia program and building dementia care teams are also covered.

GEY 4612 Psychology of Aging CASB (3) BC GEY
A comprehensive overview of psychological aspects of aging. Topics will include age-related changes in sensation/perception, cognition, and personality, as well as application to late-life psychopathology.

GEY 4628 Health, Ethnicity, and Aging (3) BC GEY
This course addresses how people of different ethnic backgrounds age, in the physical, psychological, and social context, with an emphasis on health.

GEY 4629 Women and Aging (3) BC GEY
Because of longer life expectancy and other factors, women make up a disproportionate share of older adults in the United States. This course examines older women from a feminist perspective, is open to all majors, and is not repeatable for credit.

GEY 4632 Economics of Aging (3) BC GEY
This course provides the foundations of economic reasoning necessary to understand the economic implications of key issues in aging.

GEY 4635 Business Management in an Aging Society CPST (3) BC GEY
This course provides students with an interdisciplinary perspective that addresses both business management and the impact of our aging society on business.

GEY 4641 Death and Dying CASB (3) BC GEY
A broad overview of the basic concepts and psychosocial issues relating to the meaning of loss and death, the process of death, and the experience of grieving. Health care practices are considered along with community resources.

GEY 4647 Ethical and Legal Issues in Aging CPST (3) BC GEY
A consideration of the major ethical and legal issues in aging and their implications for policies, priorities, and services.

GEY 4690 Senior Seminar in Aging (3) BC GEY
In this senior level capstone course, students discuss important professional issues in aging, integrate knowledge from prior courses, and practice professional skills.

GEY 4900 Directed Readings in Aging (1-3) BC GEY
A reading program with topics in aging conducted under the supervision of a faculty member.

GEY 4917 Directed Research in Aging (1-4) BC GEY
This course will provide Undergraduate Students with an opportunity to engage in an agreed upon research project under the supervision of a professor. The course is open to any major and is repeatable for credit.

GEY 4935 Special Topics in Gerontology (3) BC GEY
Courses on topics such as preretirement, mental health, human services organization, nursing home administration, the older woman, and elder abuse will be offered.

GEY 4945 Internship (1-9) BC GEY
A full-time internship assignment to an agency or organization if in the Aging Science program (3-6 hours) or to a nursing home if in the Long Term Care Administration program (9 hours).

GEY 5476 Program Evaluation in an Aging Society (3) BC GEY
Students develop knowledge of the purposes of evaluation research and the approaches and methodologies necessary to evaluation aging services programs and organizations.

GEY 5501 Health Care Operations in Long Term Care (3) BC GEY
Addresses the health care operations of long term care facilities with a special emphasis on nursing homes and assisted living facilities. Specifics include leadership management of people resources physical plant and quality improvement.

GEY 5620 Sociological Aspects Of Aging (3) BC GEY
Examines, within a sociological frame of reference, the interrelationships between the aged (or aging) and the structure and function of the social system and its major institutionalized subsystems.

GEY 5630 Economics and Aging (3) BC GEY
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Examines basic economic systems as they impact the aged. Emphasis is on applied aspects of economic planning, pensions, insurance, social security and other support systems.

GEY 5642 Perspectives on Death and Dying (3) BC
Study of the various psychological, medical, legal, and religious problems caused by dying and death, and how individuals and groups have responded in the past and present.

GIS 2010C Map Interpretation (3) AS SGS
Analysis and synthesis of various types of maps and map projections.

GIS 3006 Computer Cartography (3) AS SGS
An introduction to the concepts underlying modern, computer-based mapping and to the collection and storage of digital spatial data.

GIS 4035C Remote Sensing of the Environment (3) AS SGS
PR: GIS 3006 and GEO 3164C
Analysis of satellite images and aerial photographs for studies of the environment.

GIS 4043C Geographic Information Systems (3) AS SGS
PR: GIS 3006 and GEO 3164C
An introduction to the concepts underlying Geographical Information Systems, with an emphasis on analytical capabilities of such systems in both raster and vector domains.

GIS 4302C GIS for Sustainability (4) AS SGS
PR: GIS 3006, with a minimum grade of C or better
Focus on the application of GIS for sustainable planning and development; policymakers & planning agencies increasingly use spatial data/methods to aid in their decisions; this course is relevant to anyone interested in issues for sustainable development.

GIS 5049 GIS for Non-Majors (3) AS SGS
An introduction to the concepts underlying digital thematic mapping and geographical information systems (GIS) for non-geography majors and non-geography graduate students.

GIS 5075 Global Positioning Systems (3) AS SGS
PR: GIS 5049
Examination of the theory, operation and application of Global Positioning Systems (GPS).

GLY 2000 Earth and Environmental Systems (3) AS SGS
This course examines the geology of the earth and the environment, using an earth systems approach that looks at interactions between the lithosphere, hydrosphere, atmosphere, and biosphere. Students will learn general principles of geology, travel worldwide on the internet, and participate in discussions on topics ranging from the scientific method to the latest geologic discoveries. Open University course; taught via internet and TV.

GLY 2000L Essentials of Geology Laboratory (1) AS SGS
Fundamental concepts and skills of modern geology, including rock and mineral identification, analysis of geologic maps, field analysis, and applications of computers in Geology.

GLY 2010 Dynamic Earth: Introduction to Physical Geology CANP (3) AS SGS
A first course in geology emphasizing the Earth's composition, structure, and dynamics. Lectures/activities include but are not limited to plate tectonics, earthquakes, volcanism, glaciation, global warming, shorelines, and natural resources.

GLY 2030 Hazards of the Earth’s Surface: Environmental Geology CANP (3) AS SGS
A first course in geology emphasizing catastrophic events that cause damage to humans and their possessions. Lectures and recitation activities on geologic hazards, tools geologists use to study them, and measures that can be taken to minimize them.

GLY 2051 Origins: From the Big Bang to the Ice Age (3) AS SGS
The history of the cosmos, origin of the universe, galaxies, the solar system, and earth, evolution of life, great extinction’s including the dinosaurs, evolution of the primates, and the environmental future of the planet. (For both non-science and science majors.)

GLY 2073 Global Climate Change: A Geoscience Perspective CANP (3) AS SGS
A geoscience perspective on global climate change science. Examination of the geophysics of climate, geologic history of climate change, physical factors that influence climate, and global climate modeling. Open to all students.

GLY 2100 History of Life CANL (3) AS SGS
This course has several objectives. It is an introduction not only to basic scientific concepts in geology and evolutionary theory but, perhaps more importantly, to science as a way of understanding the world around you and finding answers to big question.

GLY 2100L History of Life Laboratory (1) AS SGS
Laboratory study of the history of life.

GLY 2160 Geology of the National Parks CANP (3) AS SGS
This course introduces the nature of geologic processes including plate tectonics, earthquakes, volcanism, and glaciation drawing on examples from our nation’s parks.

GLY 2930 Selected Topics in Geology (1-3) AS SGS
Topical courses in geology of general interest.

GLY 3104C Stratigraphy and Paleontology (4) AS SGS
PR: GLY 2000L, GLY 3552C, GLY 2100
The study of "deep time", including how it is measured, how it is correlated over the Earth's surface, and how important physical, biologic, and chemical geologic processes have varied with time. Lec.-Lab.
GLY 3311C Mineralogy, Petrology, Geochemistry (4) AS SGS
PR: GLY 2000L, CHM 2045

GLY 3402C Structural Geology and Tectonics (4) AS SGS
PR: GLY 2000L
Plate tectonic theory and its implication re: the formation of structural features on outcrop and regional scales. Field and geophysical tools for structural analysis. Required field trip. Lec-Lab.

GLY 3552C Sedimentary Rocks and Processes (4) AS SGS
PR: GLY 2010, GLY 2000L, CHM 2045, GLY 3311C
A lecture and laboratory class that discusses sedimentary processes, formation and classification of sedimentary rock, and the sedimentary rock record. Examination of the rock record to solve problems in sedimentary geology.

GLY 3666 Computational Geology (3) AS SGS
PR: MAC 2281 or MAC 2311

GLY 4045 Moons, Planets, and Meteors: An Introduction to Planetary Science (3) AS SGS
Solar System exploration, from Aristotle to NASA. Modern views on the origins of meteorites, the Moon, Mars, Venus, and other planetary bodies, and the methods of planetary study. Meteor impacts, their effects, future hazard. Space science as a tool in the study of the Earth. Field trips, lectures, Internet exercises.

GLY 4053 Theories and Arguments about the Earth (3) AS SGS
PR: 2000 level geology course.
History of thinking about the Earth: context - geologic controversies; emphasis - geologic reasoning.

GLY 4310 Petrology (3) AS SGS
The formation of igneous and metamorphic rocks in varying tectonic environments. Emphasis is placed on the identification of igneous and metamorphic rocks in hand specimens and thin sections.

GLY 4324C Physical Volcanology (4) AS SGS
PR: GLY 3311C, MAC 2241 or MAC 2311 or MAC 2281.
Physical volcanology explores the nature of volcanism on Earth and nearby planets. Topics in magma production and ascent, eruption dynamics, volcanic hazards, and volcano monitoring will be covered in lecture, laboratory, and independent exercises.

GLY 4462 Geomechanics (3) AS SGS
PR: GLY 2010 or equivalent, PHY 2048 and 2049 or equivalent.
CPR: GLY 3402C (or an equivalent structural geology course).
Overview of the mechanical behavior of earth materials including general theory, an introduction to soil mechanics, and introduction to rock mechanics. Includes two field trips to observe geomechanical issues in Florida and modern methods of rock testing.

GLY 4480 Seismology (4) AS SGS
PR: GLY 2010, PHY 2048 or PHY 2053, MAC 2281 or MAC 2311
Comprehensive introduction to theoretical and observational seismology, use of seismic waves and earthquake patterns to study earth structure, seismic hazard and risk mitigation, earthquake prediction, and techniques for the analysis of seismic data.

GLY 4554C Sedimentary Environments (4) AS SGS
PR: At least one course in Geology with lab. A lecture lab course on principles of weathering, production, erosion, transport, and deposition on the earth's surface, and the resulting sedimentary environments. Morphologic and sedimentologic characteristics of major earth sedimentary environments are discussed, along with several field trips.

GLY 4720C Aqueous and Environmental Geochemistry (4) AS SGS
PR: GLY 2000L, CHM 2045
CR: CHM 2046
Physical, chemical and biological processes affecting fluids of the lithosphere, oceans and atmosphere. Water as a geologic medium and global entity. A systems approach. Lecture/Lab.

GLY 4734 Beaches and Coastal Environments (3) AS SGS
A comprehensive introduction to the nature of all coastal environments including beaches, dunes, tidal inlets, estuaries, reefs, and river deltas. Emphasis will be on the natural state of these environments and how human activities have and will impact them. Consideration of coastal management policies involving economics, ethics, policy, and environmental law.

GLY 4780 Geological Field Studies (1-3) AS SGS
PR: 1 geology course.
Lectures and field trip to study modern geologic systems and/or geologic origins of specific regions. Mapping and field description techniques
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introduced. Topic/destination of trip varies. Trip requires camping and vigorous physical activity. Lec. Field trip.

GLY 4822C Hydrogeology (4) AS SGS
PR: GLY 2010, GLY 2000L, MAC 2281 or MAC 2311, PHY 2048 or PHY 2053, CHM 2045
CR: MAC 2282
Ground water flow systems, ground water geology, introduction to numerical and analytical models of ground water flow. Lec.-lab.-field trips.

GLY 4905 Independent Study (1-3) AS SGS
Specialized independent study determined by the student's needs and interests.

GLY 4915 Undergraduate Research (1-3) AS SGS
Individual experimental investigations with faculty supervision.

GLY 4920 Geology Colloquium (1) AS SGS
Weekly topical lectures by faculty, graduate students and invited speakers.

GLY 4921 Scientific Communication WRIN 6ACT (3) AS SGS
A writing-intensive FKL capstone course designed to develop students' skills in communicating scientific ideas through the written word, spoken word, and through graphical displays of information (graphs, diagrams).

GLY 4930 Selected Topics in Geology (1-4) AS SGS
Each topic is a course under the direction of a faculty member with the content depending on the interests of the students and faculty involved. All areas of geology included.

GLY 4946 Practical and Applied Geology: Teaching Experience (2) AS SGS
PR: 12 credit hours of Geology courses
Hands-on course designed to give students experience in teaching geology.

GLY 4947 Practical and Applied Geology: Laboratory Experience (2) AS SGS
PR: 12 credit hours of Geology courses
Hands-on course designed to teach the basic laboratory skills of a practicing geologist.

GLY 4948 Practical and Applied Geology: Field Experience (2) AS SGS
PR: 12 credit hours of Geology courses
Hands-on course designed to teach the basic skills of a practicing field geologist.

GLY 4949 Practical and Applied Geology: Field Mapping (2) AS SGS
PR: 12 credit hours of Geology courses
Hands-on course designed to teach the basic mapping skills of a practicing geologist.

GLY 5786 Geological Field Excursion (2) AS SGS
Lectures and 2-3 week field excursion to study regional geology, structure and lithogenesis of geologically complex terrain. Mapping and outcrop description techniques are emphasized. Destination of trip varies. Trip requires camping and vigorous physical activity. Lec.-field trip.

GLY 5865 Statistical Models in Geology (3) AS SGS
PR: STA 2023 or equivalent
Application of statistical methods to geological problems. Emphasis on sampling plans, nature of geologic distributions, and application of analyses of variance to solving geological problems. Lec.

GLY 5932 Selected Topics in Geology (1-4) AS SGS
Each topic is a course under the direction of a faculty member. All areas of geology included.

GRA 2206C Typography (3) FA ART
This foundational course explores the structure of letter forms and lettering. This course provides information about the importance of type in the context of graphic design and application for printed and electronic media.

GRA 3104 Computer Graphics (3) FA ART
This course is the continuation of Graphic Design I. The coursework emphasizes the utilization of electronic media for visual problem solving. Students will increase their skill with web based design and photo-editing software.

GRA 3193 Graphic Design I (3) FA ART
Restricted to majors. This course explores the application of formal design principles to visual problem solving through typography, layout, and web design. Students will apply conventional and electronic tools and techniques to the graphic design process.

GRA 3735 Multimedia Systems I (3) FA ART
This course introduces multimedia systems and focuses on their use as tools in the production of digital multimedia. Content covers all key hardware, navigation, and operating components.

GRA 4930C Graphic Design: Senior Studio (3) FA ART
Advanced problems in graphic design, advertising, and multimedia visual communication systems will be discussed and assigned as projects. Focus is upon efficient and effective use of technology in the design production process.

GRA 4940 Graphic Design: Internship (2) FA ART
On site supervised work experience in an educational, graphic studio, advertising agency, or corporate environment.

GRA 4945 Graphic Design: Professional Practicum (3) FA ART
Students fine-tune their portfolios, create self promotional print and digital projects and develop their resumes. Includes field trips to studios, agencies, corporate graphic departments and marketing firms.

GRA 4955C Senior Project: Portfolio (3) FA ART
This course covers the organization and presentation of a design/advertising/graphic portfolio and appropriate related materials. Emphasis is upon portfolio development, professional production, and self promotional skills.

GRE 1120 Beginning Classical Greek I (4) AS WLE
An introductory course in classical Greek grammar with appropriate readings.
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GRE 1121 Beginning Classical Greek II (4) AS WLE
PR: GRE 1120 or equivalent.
An introductory course in classical Greek grammar with appropriate readings.
GRE 2140 New Testament Greek I (3) AS REL
GRE 2141 New Testament Greek II (3) AS REL
PR: GRE 2140.
GRE 2220 Intermediate Classical Greek (4) AS WLE
PR: GRE 1121 or equivalent.
Readings in Greek at an intermediate level.
GRK 1120 Beginning Modern Greek I (4) AS WLE
An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition.
GRK 1121 Modern Greek II (4) AS WLE
PR: GRK 1120 or its equivalent
A continuation of GRK 1120. An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition.
GRK 2220 Modern Greek III (4) AS WLE
PR: GRK 1121 or the equivalent.
For language students who intend to attain basic proficiency.
GRK 2221 Modern Greek IV (4) AS WLE
PR: GRK 2220 or its equivalent.
Continuation of GRK 2200. Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.
GRK 4905 Directed Study (1-5) AS WLE
Permits study options in Modern Greek not available in the regularly scheduled curriculum at departmental discretion.
GRW 3502 Survey of Greek Literature: Plato’s Republic (3) AS WLE
PR: GRE 2200 or equivalent.
Plato’s Republic introduces students to Plato in the original Classical Greek language, providing the necessary transition from the Beginning and Intermediate courses to an Advanced level of proficiency in ancient Greek.
GRW 4905 Directed Reading (1-4) AS WLE

GRW 5905 Directed Reading (1-4) AS WLE

GRW 5934 Selected Topics (1-4) AS WLE
Study of an author, movement or theme.
HBR 1120 Modern Hebrew I (4) AS WLE
An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition.
HBR 1121 Modern Hebrew II (4) AS WLE
PR: HBR 1120 or its equivalent
A continuation of HBR 1120. An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.
HBR 2220 Modern Hebrew III (4) AS WLE
PR: HBR 1121 or the equivalent.
For language students who intend to attain basic proficiency.
HBR 4905 Directed Study (1-5) AS WLE
Permits study options in Modern Hebrew not available in the regularly scheduled curriculum at departmental discretion.
HIS 2931 Special Topics (3) AS HTY
This course emphasizes a selected historical problem or issue. A variety of instructional approaches will be taken, and topics may vary.
HIS 3308 War and Society (3) AS HTY
An examination of the ways in which societies have organized themselves for war and how societies are changed by war. Also explores gendered expectations in war, and the changing conduct of war.
HIS 3930 Special Topics (3) AS HTY
This course is designed to emphasize a selected historical problem or issue that is meaningful and challenging to the student. A variety of instructional approaches will be taken to the material. Topics will be changed each semester.
HIS 3938 Major Issues in History CPST HHCP (3) AS HTY
This course is an interdisciplinary examination of the historical relationship between (broadly) Asia and the West. It offers non-historians the opportunity to understand the dynamic between past and its interpretation.
HIS 4104 Theory and Methods of History WRIN 6ACT (3) AS HTY
Introduces history majors to the theories, methods, approaches, and key debates that are central to the modern historical profession. Develops skills in historical research, reading, writing, and oral communication. Restricted to majors.
HIS 4900 Directed Reading (1-4) AS HTY
Arrangement with instructor prior to registration. Readings in special topics.
HIS 4920 Colloquium in History (2-4) AS HTY
Reading and discussion of selected topics in the various fields of history. The subject and scope of inquiry will be determined by the instructor for each section.
HIS 4936 Pro-Seminar in History CPST HHCP 6ACT (3) AS HTY
PR: HIS 4104
Advanced topics in the various fields of history. Emphasis on discussion of assigned readings and on research and writing of a major paper.
HIS 4940 Internship in History (1-4) AS HTY
Supervised field experience in a research and writing-related position that relates to the History
major. Possible internship sites include historical societies and museums. Restricted to majors. Repeatable for 6 total credits.

**HSC 2933 Selected Topics in Public Health (1-3)**

This course explores a variety of health topics that are related to improving the health and health behaviors of individuals, groups and communities. Specific topics may vary each semester. No prerequisites.

**HSC 2400 First Aid (2)**

Meets the American Red Cross certification requirements in standard and advanced first aid.

**HSC 2130 Sex, Health, and Decision-Making CASB (3)**

This course focuses on an ecological perspective of the determinants of health including biology, individual behavior, social relationships, social stratification, institutions, neighborhoods and communities, environment, policies and globalization.

**HSC 2404 First Aid (2) ED TAL**

Meets the American Red Cross certification requirements in standard and advanced first aid.

**HSC 2933 Selected Topics in Public Health (1-3)**

Overview of major public health and health related issues of interest to undergraduates. Course explores a variety of health topics that are related to improving the health and health behaviors of individuals, groups and communities. Specific topics may vary each semester. No prerequisites.

**HSC 3301 Health, Safety, Nutrition and Motor Skills for the Young Child (3) ED TAL**

Provide students with the knowledge to teach developmentally appropriate motor activities; to provide continuous health services; create and maintain a healthy learning environment; and sequence appropriate health instruction for Pre-K through 3rd grade students.

**HSC 3503 Principles of Toxicology (3) PH EOH**

Covers basic principles of toxicology, including molecular/cellular sites of action of toxicants, physiological effects of toxicants on individual organ systems. Env tox is also covered.

**HSC 3541 Human Structure and Function (3) PH CFH**

This course is designed to introduce the structural levels of the body beginning with chemicals and progressing through cells, tissues, organs and systems with emphasis on homeostasis, stress and feedback systems. Not restricted to majors.

**HSC 4134 Prevention of Mental Illness (3) PH PHC**

This course explores the contributions of prevention science and public health in impeding the development of mental disorders and the events that lead to mental disorders with the major developmental focus on childhood.

**HSC 4172 Women's Health: A Public Health Perspective (3) PH PHC**

From a public health perspective, this course will explore the multidimensional and multidisciplinary dimensions of women’s health. The course will emphasize health promotion, disease prevention, and overall well-being.

**HSC 4211 Health, Behavior and Society (3) PH PHC**

This course focuses on an ecological perspective of the determinants of health including biology, individual behavior, social relationships, social stratification, institutions, neighborhoods and communities, environment, policies and globalization.

**HSC 4213 Environmental and Occupational Risk Analysis (3) PH EOH**

This course provides an introduction of risk analysis for environmental and occupational health. Students will gain knowledge of the various regulations and scientific methods for the evaluation of health risk in environmental and occupational settings.

**HSC 4430 Occupational Health and Safety (3) PH EOH**

This course provides a review of occupational health and safety. Regulatory guidance and compliance, and the underlying science that drives occupational safety regulations are covered. The roles of various health and safety professionals are explored.

**HSC 4504 Foundations of Public Health Immunology (3) PH PHC**
This course provides an overview of the principles of Immunology and an introduction to the applications of immunology and immunologic techniques used in the surveillance, prevention and control of diseases of public health importance.

**HSC 4537 Medical Terminology (3) PH PHC**
This course provides a unique educational program to improve the student's medical vocabulary. The course includes medical and scientific content information, which students encounter in other health professional courses. Not restricted to any major.

**HSC 4551 Survey of Human Diseases (3) PH PHC**
An overview of the nature, types, and mechanisms of diseases of the major body systems.

**HSC 4573 Foundations of Food Safety (3) PH PHC**
This course provides an overview of food safety practices and principles emphasizing the role of food safety in public health. Topics include proper food handling procedures, food safety hazards, food-borne illness prevention, and food safety regulations.

**HSC 4579 Foundations of Maternal and Child Health (3) PH PHC**
This course provides an overview of maternal and child health issues and trends. With this primary aim, the objectives are organized around the knowledge of health assessment and interventions for families and children.

**HSC 4624 Foundations of Global Health (3) PH PHC**
This course introduces students to the principles of public health from a global perspective. Emphasis will be placed on the impact of social, economic, political and environmental factors that influence health and access to health care across the globe.

**HSC 4630 Understanding U.S. Health Care (3) PH PHC**
An introduction to health services; providing an overview of important components of the U.S. health care system, health policy, funding sources, and comparisons with other developed nations.

**HSC 4631 Critical Issues in Public Health CPST 6ACT (3) PH PHC**
This course provides students the opportunity to learn about the multiple ways to view controversial topics in public health. The course covers topics including biomedical issues, social & behavioral factors related to health, and environmental issues.

**HSC 4933 Special Topics in Public Health (1-3) PH PHC**
Content will be governed by student demand and instructor interest.

**HSC 5036 Professional Foundations of Health Education (1) PH CFH**

The study of the practice of health education in various settings, and selected historical, cultural, philosophical, professional, and ethical issues in the practice of education.

**HUM 1020 Introduction to Humanities CAFA (3) AS HCS**
Analysis of selected works of literature, music, film, and visual art, representing artists of diverse periods, cultures, genders, and races. Especially recommended for students who later take 4000-level Humanities courses.

**HUM 2210 Studies in Culture: The Classical Through Medieval Periods CAHU HHCP (3) AS HCS**
A survey of literature and the arts of ancient Greece, Rome, and medieval Europe. Issues to be examined may include the dialogue between local traditions and cosmopolitan cultures, the relationship of the individual to society, and the bases for moral values.

**HUM 2230 European Humanities: Renaissance - 20th Century CAHU HHCP (3) AS HCS**
Students will be exposed to the creative expressions and cultural products of Western European societies in order not only to determine the past's values, beliefs, and concerns, but also to enrich our own spirits, imaginations, and intellects.

**HUM 2250 Studies in Culture: The Twentieth Century CAHU (3) AS HCS**
Analyses of selected works of twentieth century art, including films, paintings, music, and literature, in the context of major political, social, and economic events, such as war, depression, totalitarianism, and technological change.

**HUM 2271 Eastern and Western Culture from Antiquity to 1400 (3) AS HCS**
A comparative treatment of music, visual arts, theatre, literature, and philosophy in the East and West, proceeding chronologically from Ancient times through the Middle Ages, emphasizing Europe and India.

**HUM 2273 Eastern and Western Culture Since 1400 CAGC (3) AS HCS**
This course examines the different ways Westerners have viewed, understood, and made sense of Asia since the 15th-century.

**HUM 2466 Modern Latin American Cultures (3) AS HCS**
An overview of the cultural heritage of Latin America since the time of independence. Verbal and visual texts will be used to study the difficult struggle to create a cultural identity that incorporates African, indigenous, and European traditions.

**HUM 2522 Introduction to the Cultural Study of Popular Music CAHU (3) AS HCS**
Variable topic. An interdisciplinary examination of popular music traditions as they affect race, class, and gender, and interact with commerce,
HUM 2593 Science in Cultural Context CAHU (3) AS HCS
This course is an introduction to science studies, where students will engage with scientific texts and consider their production from a variety of historical, philosophical, and cultural views.

HUM 2930 Selected Topics (1-3) AS HCS
An introductory course dealing with a recurrent theme in the arts or focusing on a particular artistic center (a nation or city at a particular time).

HUM 3231 The Renaissance (3) AS HCS
An examination of the arts of the Renaissance, focusing on primary texts and images. Themes include humanism, the revival of antiquity, the concept of the individual, the Reformation and Counter-Reformation, and the impact of New World explorations.

HUM 3237 The Seventeenth Century (3) AS HCS
An examination of the development of the art and culture of the Baroque Period, roughly the 17th Century, focusing on primary texts and images. Themes will include mysticism, sensuality, rationalism, science, absolutism, and liberty.

HUM 3240 The Early Middle Ages: Early Christian Cultures (3) AS HCS
This course examines early Christianity as a religious, social and cultural phenomenon. Topics include new literary and artistic forms; religious conversion; and Christian ideals of martyrdom, virginity, monasticism, and sainthood.

HUM 3241 Central Medieval and Gothic Europe (3) AS HCS
By studying texts and artifacts, this course examines the diverse cultures of Europe from the eleventh to fourteenth centuries. A central issue covered will be the efforts of the church to create an all-encompassing Christian culture.

HUM 3242 The Enlightenment (3) AS HCS
By studying late seventeenth and eighteenth century literature, music, visual art, and philosophy, this course examines phenomena such as rationalism, classification systems, the influence of science, utilitarianism, reform, and secularism.

HUM 3244 Nineteenth Century European Culture (3) AS HCS
By studying 19th century literature, music, and visual art, this course examines phenomena such as the rise of capitalism, colonial expansion, nationalism, urbanism, and the redefinition of public and political life during this period of extreme change.

HUM 3309 Introduction to Food Studies GCPC (3) AS HCS
An experiential course addressing historical and contemporary relationships between people and the food they produce/consume, focusing on the impact of industrialization through examination of visual arts, literature, and popular culture texts.

HUM 3407 Ancient Near East Cultures (3) AS HCS
Material and intellectual culture of ancient Mesopotamia (Iraq) & Persia (Iran) from the fourth millennium BCE until the coming of Islam. Topics include the Sumerian and the Assyrian in Mesopotamia; and the Achaemenid, Parthian, and Sasanian in Persia.

HUM 3457 Nineteenth Century American Arts and Letters (3) AS HCS
This course explores American art, literature, and cultural life from the early republic through the Gilded Age. Works are studied in their historical context in order to understand how they transmitted important information about American identity.

HUM 3458 Twentieth-Century American Culture (3) AS HCS
A historical survey of American culture since 1900. Literature, music, visual art, film, and intellectual movements are analyzed, to understand how they have reflected and shaped cultural values and responded to changing conditions of American society.

HUM 3463 Latin American Civilization I: Pre-Columbian & Colonial (3) AS HCS
PR: HUM 2210 or HUM 2230.
An overview of Pre-Columbian and Colonial Latin American Culture through 1700. Topics include literature, music, and art; ethnic diversity; political and religious tension; "high" versus "low" culture; and the clash of European and American cultures.

HUM 3804 Introduction to Cultural Studies (3) AS HCS
PR: AMS 2030 or AMS 2270 or FIL 1002 or HUM 2210 or HUM 2230 or HUM 2250 or HUM 2273 or HUM 2522.
An introduction to the ideas and skills needed for doing scholarly work in interdisciplinary cultural studies. An overview of central critical discussions including gender studies, postcolonialism, class and power relationships, and technology and media.

HUM 3930 Selected Topics in Humanities (1-3) AS HCS
Courses offered under this number will always be interdisciplinary, treating more than one art media and relating them historically or in some other way. The interdisciplinary emphasis on literature and the arts, placing them in some larger context of culture or ideas, distinguished HUM courses from related courses offered in other departments of the university. Topics will vary; course may be repeated for credit with change of content.

HUM 4261 Cultural Periods and Styles (3) AS HCS
Focuses on the relationships between a particular historical period and the cultural forms characteristic of it. An interdisciplinary examination of cultural texts as responding to social and political issues of the day. Topic varies. Repeatable to 6 cr.

HUM 4331 Humanities Pro-Seminar (3) AS HCS
COURSE DESCRIPTIONS

PR: HUM 3804 with a grade of B- or better
A course emphasizing the analysis of primary works in relation to cultural contexts, the integration of secondary sources, and the construction of a written argument. Not restricted to majors. Offered only in fall semester.

HUM 4391 Places, Spaces, and Regions (3) AS HCS
Focuses on relationships between geographical location and cultural dynamics. Emphases include the roles of natural environments, core-periphery relations, and local identities in the development of cultural practices. Topic varies. Repeatable to 6 cr.

HUM 4433 Ancient Greek Culture (3) AS HCS
PR: HUM 2210 or HUM 2230
A study of the poetry, drama, philosophy, historical writing, painting, sculpture and architecture of ancient Greece, including such authors as Homer, Sophocles, and Plato, and monuments such as the Parthenon.

HUM 4452 Nineteenth Century American Culture (3) AS HCS
PR: HUM 2210 or HUM 2230
Study of selected works of art, tracing the course of American expansionism in civilization, and the interaction between the arts and the sciences in American ways of life and work, 1790-1890.

HUM 4462 Pre-Columbian and Colonial Latin American Culture (3) AS HCS
PR: HUM 2210 or HUM 2230
Analysis of selected Latin American works of art in their cultural context, with emphasis on the Pre-Columbian and Colonial periods. The course will focus on a particular historical, geographical, or thematic topic within those periods.

HUM 4464 Modern Latin American Culture (3) AS HCS
Analysis of selected Latin American works of art in their cultural context, with emphasis on the period since the time of independence. The course will focus on a particular historical, geographical, or thematic topic within that period.

HUM 4581 Film and Media Theory (3) AS HCS
PR: HUM 3853 or HUM 3854
This advanced introduction to film and media theory offers students sophisticated tools for thinking critically and creatively about motion pictures and the psychological, cultural, political, and historical meanings they engender.

HUM 4582 Film Auteurs (3) AS HCS
Surveys the contributions to American culture of major films from the perspectives of genres and styles, critical methodologies and theories. Variable topics such as: region, subject, or period of time. Repeatable up to 9 credit hours with change of topic.

HUM 4824 Issues in Cultural Theory (3) AS HCS
Focuses on a critical issue in cultural theory. Students will delve into an issue central to cultural study and develop their ability to apply cultural theory to the analysis of cultural forms. Topic varies. Repeatable up to 6 hours with change of topic.

HUM 4825 Identity and Power (3) AS HCS
Focuses on the relationships between social power and individual or group identity. Emphasizes how discourses on race, class, gender, and/or nationality construct individual subjectivity and imagined communities. Topic varies. Repeatable to 6 credits.

HUM 4890 Genres and Media (3) AS HCS
This course focuses on a particular aesthetic genre or media. Emphasis is on close readings of the media or genre in question, and on how media or generic paradigms shape ideas and identities.

HUM 4905 Directed Study (1-4) AS HCS
Specialized individual study determined by the student's needs and interests.

HUM 4930 Selected Topics in Humanities (1-3) AS HCS
This course will deal with a recurrent theme in the arts as, for example, love or death, or will focus on artistic centers such as Renaissance Florence or Paris in the 1920s. Topics will vary.

HUM 4931 Seminar in Humanities CPST WRIN 6ACT (3) AS HCS
PR: HUM 3331
Seminar focuses on the writing of a substantial research paper in the humanities. Topic varies. Offered only in spring semester.

HUM 4938 Major Issues in the Humanities CPST (3) AS HCS
The study of an important topical issue in the Humanities. Materials representing diverse views relating to that issue will be read, and works of art in different media that have relevance to the debate will be studied. Available to majors and non-majors.

HUM 4940 Internship in Humanities (1-3) AS HCS
A structured, out-of-class learning experience providing firsthand, practical training in Humanities-related professional careers in the community.

HUM 4941 Study on Location (1-4) AS HCS
The art of a culture will be examined during travel in groups, led by an instructor, to important cities or sites. Monuments, museums, architecture, plays, and/or concerts will be studied. Reading assignments and lectures. Not restricted.

HUM 2201 Nutrition (3) NR NUR
The study of fundamental principles of normal nutrition as they relate to human life and growth from conception through senescence, interpretation of current nutrition information, and application of nutrition knowledge in the establishment of good eating habits.

HUM 3126 Food and Culture (3) PH CFH
Exploration of the role of cultural diversity in formation of food habits with focus on changes in U.S. dietary patterns related to global cultural plurality.
IDH 2930 Selected Topics (0-3) HC HON
PR: IDH 2010. This course is designed to emphasize a selected problem or issue that is meaningful and challenging to University Honors students and special populations. A variety of instructional approaches will be used. Topics will vary each semester. Repeatable for a total of 8 credits.

IDH 3100 Arts/Humanities Honors CAHU HHCP (1-3) HC HON
An introduction to western arts and letters from the perspectives of three periods (classicism, romanticism, and modernism), the relationship of ideas to art, the similarities among the arts of a given period, and important differences between periods. Repeatable for a maximum of six hours.

IDH 3350 Natural Sciences Honors CANP (3) HC HON
An exploration of current knowledge concerning fundamental principles in the Sciences, their potential for application and attendant ethical and philosophical questions. Honors College students only. Repeatable up to 6 hours.

IDH 3400 Social and Behavioral Sciences Honors CASB (3) HC HON
Introduction to the concerns of the Social and Behavioral Sciences, methods of inquiry, discovery, and validation of knowledge. A survey of the way various disciplines examine the question of how society is organized. Repeatable for up to 6 credits with change of topic.

IDH 3600 Seminar in Applied Ethics CASB (3) HC HON
This course explores ethical issues related to selected topics such as Ethics of Technology, Ethics in Business, Bio-Medical Ethics, Personal Ethics Development.

IDH 4000 Honors Program Seminar: Major Works/Majors Issues (3) HC HON
PR: IDH 2010. This course explores major works and major issues in a variety of disciplines. Each section will be devoted to content in a different academic area.

IDH 4200 Geographical Perspectives Honors CAGC (3) HC HON
An introduction to African, Latin American, Middle Eastern, or Asian perspectives focusing on social, political and economic, artistic, cultural and intellectual subject matter. The material will be presented within a geographical, chronological, and humanities background. Repeatable for up to 6 credits with change of topic.

IDH 4910 Undergraduate Research (0-3) HC HON
A supervised program of interdisciplinary research in areas of specific interest. Open to all USF students by application through the undergraduate research coordinator.

IDH 4930 Selected Topics (1-3) HC HON
PR: IDH 2010. This course is designed to emphasize a selected problem or issue that is meaningful and challenging to University Honors students and special populations. A variety of instructional approaches will be used. Topics will vary each semester. Repeatable for a total of 8 credits.

IDH 4950 Honors Project CPST (1-4) HC HON
COURSE DESCRIPTIONS

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A program of independent research or study in areas of specific interest working under the supervision of a faculty mentor. Restricted to Honors College students.

**IDS 2667 Historical Perspectives II (3) AS IAS**
The development and public presentation of a senior thesis under the direction of a mentor. Course is taken for 2 semesters.

**IDS 5956 Honors Project (3) HC HON**
Advanced Honors Project. Repeatable up to 12 hours.

**IDS 5975 Honors Thesis (3) HC HON**
Advanced Honors Thesis. Repeatable up to 12 hours.

**IDS 1505 Introduction to Research in Beh. & Com. Sciences (1) BC MHL**
Overview of research problems in behavioral & community sciences, research ethics, and the responsible conduct of research. Restricted to students with a major or minor in College of Behavioral & Community Sciences.

**IDS 2130 Biology For Learning Communities (3) AS IAS**
This course is an introduction to major concepts of biology, focusing on evolution as the unifying concept in the field. Non-majors only.

**IDS 2600 Applications of Research in Community Settings (1) BC MHL**
Research in Community Settings introduces students to the principles of community-based participatory research and provides opportunities for students to observe and analyze the application of evidence-based practices in community settings.

**IDS 2664 Social Science Perspectives I (3) AS IAS**
Provides an overview of the evolution and global expansion of Western Civilization. Examines global problems of economic growth and development; geopolitical relations among nations and states, food supply and hunger, and environmental change.

**IDS 2665 Social Science Perspectives II (3) AS IAS**
Approaches the study of human behavior and society using the lens of various institutions. The course addresses issues of social stratification, economics, education, religion and social status. The course is not restricted to any major, has no lab section, and is not cross-listed.

**IDS 2666 Historical Perspectives I (3) AS IAS**
Approaches the study of human history through a series of specific case-studies that focus on historical processes. The primary focus of the course is to understand the variety of ways that the past has been brought into and understood in the present, rather than a comprehensive survey of a limited time or place.

**IDS 2667 Historical Perspectives II (3) AS IAS**
Approaches the study of human history through a series of specific exercises that focus on what historians do: produce histories. The primary focus of the course is to understand the variety of ways that the past can be emplotted in histories, rather than a comprehensive survey of a limited time or place. With this understanding, students will produce several of their own histories.

**IDS 2912 Undergraduate Research Experience (0-4) US DEA**
Learning objectives determined by faculty and aligned with students career aspirations and/or academic program. May be repeated a maximum of four times. This course is open to all majors.

**IDS 2931 Selected Topics (1-3) AS IAS**
Selected topics in liberal arts and sciences. A basic introduction to the substance and theory of contemporary topics in humanities, social science or natural science.

**IDS 3115 Values and Choices 6ACT (3) ED EAP**
An in-depth examination of values and their relationship to choices in contemporary society using historical perspective and inquiry of moral/ethical dilemmas. Available to majors or non-majors.

**IDS 3186 Scientific and Ethical Dimensions of Human Disease (3) AS IAS**
An interdisciplinary perspective of the biological basis of human disease combined with critical thinking and medical ethics. Basic concepts of human disease are integrated with bioethical dimensions of patient choice, physician responsibility and current health care issues.

**IDS 3652 Arts Connections (3) FA FAI**
This is an interdisciplinary course to the arts disciplines of music, dance, theatre, and art. Artists from the four disciplines will provide weekly presentations centered around issues and ideas that have formed the basis of their creative research. Influences of diversity, new technologies and community and public arts will be explored. This course will introduce students to the role the arts play in shaping their perceptions of the world as well as reflecting the underlying values and paradigms that form our culture(s).

**IDS 3668 Images of Contemporary Urban Culture 6ACT (3) AS IAS**
Offers multiple perspectives on the vision, theories, and practices of contemporary urban culture through the use of various literary genres. Examines the cultural realities of contemporary urban life, such as social stratification, discontinuity, anonymity and poverty; as well as its many potentials such as creative energy, diversity, and relational networks. Must have enough credit hours required for exit course admittance.

**IDS 3947 Cooperative Internship (0-6) US DEA**
Learning objectives determined by faculty and aligned with experiences in the workplace setting related to student’s career aspiration and/or academic program. May be repeated for a maximum of 6 credit hours. The internship course is open to all majors.

**IDS 3949 Cooperative Education, Parallel (0-2) US DEA**
### COURSE DESCRIPTIONS

#### UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Department</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 5177 The Atelier, Its Management and History (3) FA ART</td>
<td>This class will consider the history of printmaking and other forms of collaborative art production through the prism of the atelier and its management.</td>
<td>3</td>
<td>FA ART</td>
<td></td>
</tr>
<tr>
<td>IDS 5178 Problems in Museum Studies (3) FA ART</td>
<td>This class is designed as both an academic and theoretical course to introduce students to the museum profession and develop critical thinking skills required to solve problems in the rapidly changing typography of museums. Students will develop managerial and administrative skills as they meet with and discuss the job descriptions of curators, educators, collection managers, marketing professionals, exhibit designers, registrars, and fundraisers.</td>
<td>3</td>
<td>FA ART</td>
<td></td>
</tr>
<tr>
<td>IDS 4930 Selected Topics (1-3) AS IAS</td>
<td>Course content determined by students’ and instructor’s interests and needs.</td>
<td>1-3</td>
<td>AS IAS</td>
<td></td>
</tr>
<tr>
<td>IDS 4934 Senior Capstone for BSAS/BGS CPST</td>
<td>This course affords students the opportunity to synthesize knowledge they have gained throughout their previous undergraduate coursework and identify how their integrated program of study provides real-world applicability and utility.</td>
<td>3</td>
<td>AS CPST</td>
<td></td>
</tr>
<tr>
<td>IDS 4942 Community Internship (1-4) AS CEL</td>
<td>To provide students with a community related work experience.</td>
<td>1-4</td>
<td>AS CEL</td>
<td></td>
</tr>
<tr>
<td>IDS 4949 Cooperative Education, Alternating (0-3) US DEA</td>
<td>Full-time (40 hrs/wk) paid or for credit, career-related work experience. This course may be repeated up to 6 credit hours. Prerequisite: 45+ hours of credit, GPA 2.5+, a declared major and be accepted in Cooperative Education Program.</td>
<td>0-3</td>
<td>US DEA</td>
<td></td>
</tr>
<tr>
<td>IDS 4950 International Community Research (1-4) AS CEL</td>
<td>To provide students with a community related research experience.</td>
<td>1-4</td>
<td>AS CEL</td>
<td></td>
</tr>
<tr>
<td>IDS 4955 International Community Research (1-4) AS CEL</td>
<td>To provide students with an international community research experience.</td>
<td>1-4</td>
<td>AS CEL</td>
<td></td>
</tr>
<tr>
<td>IDS 4956 International Community Internship (1-4) AS CEL</td>
<td>To provide students with an international community internship experience. Repeatable up to 8 credits.</td>
<td>1-4</td>
<td>AS CEL</td>
<td></td>
</tr>
<tr>
<td>IDS 4958 International Community Research (1-4) AS CEL</td>
<td>To provide students with a community related research experience.</td>
<td>1-4</td>
<td>AS CEL</td>
<td></td>
</tr>
<tr>
<td>IDS 4991 Advanced Undergraduate Research Experience (0-4) US DEA</td>
<td>Learning objectives determined by faculty and aligned with students’ career aspirations and/or academic program. May be repeated a maximum of four times. This course is open to all majors.</td>
<td>0-4</td>
<td>US DEA</td>
<td></td>
</tr>
<tr>
<td>INR 2002 Introduction to International Relations (3) AS GIA</td>
<td>An interdisciplinary study of the international system, major world regions and problems.</td>
<td>3</td>
<td>AS GIA</td>
<td></td>
</tr>
<tr>
<td>INR 3004 Industrial Psychology (3) AS PSY</td>
<td>The application of psychological principles and the functions of psychologist in education, government, industry, and clinical practice.</td>
<td>3</td>
<td>AS PSY</td>
<td></td>
</tr>
<tr>
<td>INR 3011 Globalization (3) AS GIA</td>
<td>Influence of globalization on political-economic and social systems around the world. International organizations involved with globalization processes are studied along with nations benefiting and suffering from the consequences of globalization.</td>
<td>3</td>
<td>AS GIA</td>
<td></td>
</tr>
<tr>
<td>INR 3018 World Ideologies (3) AS GIA</td>
<td>A course which details and examines the ideologies of today’s independent countries; analyzing them in their political, social, cultural and historical context.</td>
<td>3</td>
<td>AS GIA</td>
<td></td>
</tr>
<tr>
<td>INR 3032 International Political Cultures (3) AS GIA</td>
<td>This course will explore ways in which culture influences the nature of government, economic success or failure, and constructive and destructive modes of self and social identification.</td>
<td>3</td>
<td>AS GIA</td>
<td></td>
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<tr>
<td>INR 3038 International Wealth and Power (3) AS GIA</td>
<td>Introduction to the relationship between politics and economics, emphasizing the analysis of government policies in response to both domestic and international economic problems.</td>
<td>3</td>
<td>AS GIA</td>
<td></td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

An examination of the most important issues in international affairs. The course analyzes the behavior of major foreign policy actors in the international arena, including nation states, non-governmental and international organizations.

INR 4083 Conflict in the World (3) AS GIA
Analysis of the development and scope of United States foreign policy, emphasizing goals and objectives, policy formulation and implementation, themes and issues.

INR 4035 International Political Economy (3) AS GIA
Analysis of the development and politics of the international economic system, focusing on questions of cooperation and conflict in trade, aid, and investment relationships.

INR 4083 Conflict in the World (3) AS GIA
An interdisciplinary course examining theories of conflict, conflict resolution processes and strategies, theories and peacemaking strategies, and the concept of Early Warning Systems related to the outbreak of conflict.

INR 4254 Africa in World Affairs (3) AS GIA
An examination of Africa’s place and role in world affairs, including an analysis of the impact of external forces, international relations in post-colonial Africa, the relations of African states with the major world powers, the U.N. and its agencies.

INR 4403 International Law (3) AS GIA
Examines essential components of the international legal system; recognition; succession; sea, air and space law, treaties, diplomats, International Court of Justice; laws of war, etc. Introduces the student to legal reasoning as employed in the international context.

INR 4502 International Organizations (3) AS GIA
Study of the operations and structure of international organizations and effects on world politics; background and achievement of the UN; regional organizations and multi-national corporations.

INR 4900 Directed Readings (1-3) AS GIA
A supervised program of intensive reading of interdisciplinary materials in areas of specific interest.

INR 4910 Directed Research (1-3) AS GIA
A supervised program of interdisciplinary research in areas of specific interest.

INR 4931 Selected Topics (1-3) AS GIA
Interdisciplinary studies with course content dependent on student demand and instructor's interest.

INR 4936 Senior Seminar (3-6) AS GIA
A variable topics seminar integrating concepts and analyses relating to the academic background of INT majors. Should be taken in the student's final semester.

INR 4943 Internship in International Studies (3-6) AS GIA
The purpose of the course is to promote the student's understanding of global international issues within a local and practical context.

INR 5012 Globalization (3) AS GIA
Examination of globalization's impact on international relations, including literature from political science, anthropology, geography, sociology, and economics that impacts the study of the nation-state system and power. Open to majors and non-majors.

INR 5086 Issues in International Relations (3) AS GIA
Explores specific topics and provides the student with an opportunity for in-depth study of historical and contemporary problems in international politics.

INT 3004 Fundamentals of Interpreting (3) BC CSD
This is a course of intralingual language exercises that introduces students to and provides practice in techniques of rephrasing and restructuring meaning in ASL and English. Students translate texts between English, ASL and English based sign language.

INT 3110 Language and Cognitive Processing Skills in English (3) BC CSD
PR: ASL 4201C
CR: INT 3111.
Students develop the cognitive processing and language skills within English that are preliminary steps for interpretation. It will develop student's ability to segment information to perform various cognitive tasks intralingually. For Majors only.

INT 3111 Language and Cognitive Skills in ASL (3) BC CSD
PR: INT 3270, INT 3112, ASL 3324
Students acquire cognitive processing and language development within ASL that are preliminary steps for performing simultaneous interpretation. This course also includes a service
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component by volunteering in various deaf communities. For majors only.

INT 3112 Translation from English and from ASL (3) BC CSD
PR: ASL 2140C, ASL 2150C, ASL 4161C, ASL 4201C, ASL 4301C
This is a course of intralingual language exercises that introduces students to and provides practice in techniques of restructuring and meaning in ASL and English. Students translate texts between English, ASL and English based sign language.

INT 3205 Interpreting I (3) BC CSD
PR: INT 3112, ASL 3324, INT 3270
This course reinforces ASL and English skill development and the expressive and receptive skills of beginning interpreting through drill, practice and role play activities and focuses on translation and consecutive interpretation.

INT 3270 Interpreting Process and Skill Development (3) BC CSD
PR: ASL 2140C, ASL 2150C, ASL 4161C, ASL 4201C, ASL 4301C
Process-oriented approach for applying essential cognitive strategies to interpretation. Strategies include organizing and manipulating visual and spoken images, analyzing messages for meaning, and self-monitoring for message accuracy.

INT 3403 Issues in Educational Interpreting (3) BC CSD
This course explores the role of the interpreter in the educational setting. Issues related to institutional policies, potential role conflicts, interpreter/faculty collaboration, and support service provision will be emphasized.

INT 3481 Specialized Terminology (3) BC CSD
PR: INT 3270, INT 3112, ASL 3324
Students will build on conversational skills from previous ASL courses. The focus will be the settings interpreters work in and sign vocabulary related to these specialized settings. Topics include K-12 and Post-secondary Education, Medical, Mental Health.

INT 3945 Interpreting Practicum 1 (3) BC CSD
PR: INT 3270, INT 3112, INT 3004, ASL 3324
Students will observe professional interpreters working in a variety of settings. They will learn specialized vocabulary, discuss ethical issues, develop rapport with Deaf consumers, and determine language usage in a variety of settings.

INT 4190 Senior Seminar in Interpreter Training (3) BC CSD
PR: INT 3004
Students expand upon previously learned topics and discuss factors that will affect their profession. Topics include: professional organization, certification, ethics and discuss best practices and will produce a professional portfolio. For majors only.

INT 4206 Interpreting II (3) BC CSD
PR: INT 3205.
This course provides advanced, in-depth discussion and application of techniques and principles as well as expanded concentration on intermediate expressive and receptive manual communication skills.

INT 4208 Interpreting III (3) BC CSD
PR: INT 4206.
This course develops advanced competency in interpretation in complex settings. Hands-on practice using advanced interpreting skills, techniques and in-depth exploration of advanced ASL features such as non-manual markers, classifiers, and fingerspelling.

INT 4211 Transliterating (3) BC CSD
PR: INT 4206.
Introduction to the transliteration process and development of expressive transliterating skills through presentation and class participation. Topics include types of consumers who use transliterating and issues that influence the transliteration process.

INT 4235 Advanced Receptive Voicing (3) BC CSD
PR: INT 4206.
Advanced level students will strengthen interpreting skills from a signed message to a voiced English translation. Strategies and techniques include working from ASL to English interpretation, with a focus on fingerspelling and numbering.

INT 4250 Simultaneous Interpretation Monologic (3) BC CSD
PR: INT 3004, INT 3112.
Students simultaneously interpret monologic talk from ASL and from English with target language beginning before the conclusion of the source utterance and continuing as the student listens to the continuing source utterance. For majors only.

INT 4251 Simultaneous Interpretation Dialogic (3) BC CSD
PR: INT 4250.
Students interpret dialogues from ASL to English and from English to ASL with the target language production beginning before the conclusion of the source utterance and continuing as the student listens to the continuing source utterance. For majors only.

INT 4260 ASL to English Consecutive Interpretation (2) BC CSD
PR: INT 3004, INT 3112
CR: INT 4261
Students consecutively interpret conversational discourse of planned and unplanned conversational language samples from ASL to English with delays of a few seconds after the source utterance is finished. For majors only.

INT 4261 English to ASL Consecutive Interpretation (2) BC CSD
PR: INT 3004, INT 3112
CR: INT 4260
Students consecutively interpret conversational discourse from English to ASL with delays from
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conversational language samples of various lengths ranging from single utterances to discourse units of several minutes duration. For majors only.

INT 4456 Interpreting: Specialized Settings and Populations (3) BC CSD
Examines settings in which interpreters work (social service and rehabilitation, employment, religious, performing arts, legal, etc.) and the challenges of specific deaf and hard-of-hearing consumers and those with minimal language skills (MLS).

INT 4460 Video Interpreting (3) BC CSD
Video Remote Interpreting (VRI) and Video Relay Service (VRS) are new settings for sign language interpreters. This course will explore differences between VRI and VRS, ethical considerations related to video interpreting, and required specialized skills.

INT 4490 Introduction to Cued Speech and its Applications (3) BC CSD
This course covers the fundamentals of the Cued Speech system, including an overview of how it is typically used with children who are deaf. Common applications of cueing and other communication options and relevant research are discussed.

INT 4947 Interpreting Practicum II (3) BC CSD
PR: INT 4206, INT 3004
This course provides practice sessions in school settings under supervision of an experienced interpreter and course instructor. Each practicum student will shadow an interpreter, and participate in discussion about the overall performance.

ISC 1004 Integrated Natural Sciences I: Science that Matters (3) AS IDS
Discussion of integrative concepts in biology, chemistry, geology, and physics based on major knowledge strands of the Florida and Natural Science Education Standards. This course deals with current topics relevant to students, is inquiry based, and emphasizes development of higher order (critical thinking) skills through active learning strategies.

ISC 1005 Integrated Natural Sciences II: Science that Matters (3) AS IDS
Discussion of integrative concepts in biology, chemistry, geology, and physics based on major knowledge strands of the Florida and Natural Science Education Standards. This course deals with current topics relevant to students, is inquiry based, and emphasizes development of higher order (critical thinking) skills through active learning strategies.

ISC 3403C Physical Science Fundamentals for Teachers (4) AS CHM
This course is develops future science teachers’ knowledge of the physical (chemistry, and physics) sciences commonly found in 5-9 school curricula, with a focus on effective research based physical sciences pedagogy.

ISM 3011 Information Systems in Organizations (3) BA QMB
PR: CGS 2100 or equivalent.
An introduction to the language, concepts, structures and processes involved in the management of information systems including fundamentals of computer-based technology and the use of business-based software for support of managerial decisions.

ISM 3113 Systems Analysis and Design (3) BA QMB
PR: ISM 3011 with a grade of C
CPR: ISM 3232, with a grade of C
The course presents concepts, procedures, and tools needed to build computer-based information systems. The objective is to develop project management, data collection, analysis, design, testing and documentation skills.

ISM 3232 Business Application Development (3) BA QMB
CPR: ISM 3011 with a grade of "C" or better (not C-).
Presentation of business application development using an object-oriented programming language. Good program design techniques are emphasized. Business applications are developed.

ISM 3431 Operations and Supply Chain Processes (3) BA QMB
PR: QMB 2100 or ACG 2071 or STA 2122 or STA 2323, with a grade of C-
This course will provide a contemporary overview of operations management with special emphasis on supply chains and services. Both concepts for successful managers and common tools used to build, manage, and improve systems will be covered.

ISM 4041 Global Cyber Ethics (3) BA QMB
PR: ISM 3011 with a grade of C
This course provides students an in-depth look at the social costs and moral problems that have arisen by the expanded use of the Internet, and offers up-to-date legal and philosophical perspectives on the global scale for the business community.

ISM 4141 Java Programming (3) BA QMB
PR: ISM 3232 with a minimum grade of B
Utilizes Java to provide hands-on experience in working with object-oriented programming concepts and techniques. Covers a variety of application features including GUIs, database connectivity, client-server computing, and web applications.

ISM 4153 Enterprise Resource Planning Systems (3) BA QMB
PR: ISM 3011, with a grade of C
An introduction to the use, configuration and implementation of enterprise resource planning systems, and their application to key business processes. This course is restricted to business majors only.
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ISM 4212 Database Design and Administration (3) BA QMB
PR: ISM 3113 with a grade of "C" or better (not C-).
An introduction to the concepts and principles of database management. Provides potential designers, users and managers of database systems with an understanding of physical vs. logical representations, data modeling, implementation, and data management.

ISM 4213 Advanced Database Administration (3) BA QMB
PR: ISM 3113, ISM 4212, with grades of "C" or better (not C-).
Essential concepts of database administration in a business environment are covered in order to prepare students to understand and deal with database administration issues and concepts. Students gain hands-on experience by administering a database environment and completing assignments that involve resource management, data administration, security, backup, recovery and database tuning issues.

ISM 4220 Business Data Communications (3) BA QMB
PR: ISM 3011 with a grade of "C" or better (not C-).
Fundamentals of data communication, including network architectures, communication protocols, transmission standards, and internetworking. Basic concepts in distributed computing will also be covered.

ISM 4233 Information System Interface Design (3) BA QMB
PR: ISM 3232 with a grade of "C" or better (not C-).
An introduction to theories of human-computer interaction and the principles and practices of information system interface design, evaluation, and integration. Students develop programs utilizing various user interface design techniques.

ISM 4234 Object-Oriented Design and Development (3) BA QMB
PR: ISM 3232 with a grade of "B" or better.
This course presents an object-oriented approach to software development of business information systems. Students will learn to create object models of the business world and to develop information system designs based on these objects.

ISM 4252 Mainframe Technologies (3) BA QMB
PR: ISM 3232 or equivalent
Mainframe Technologies is an introduction to mainframe and operating environments for business programming and design. Students will apply problem solving using programming in a Mainframe development environment.

ISM 4300 Managing Information Resources (3) BA QMB
PR: ISM 4212 and (ISM 4220 or ISM 4402), with grades of C
Current issues in information systems management focusing on managing computer resources and social issues such as ethics, privacy, and legal issues including intellectual property.

ISM 4314 Project Management (3) BA QMB
PR: ISM 3113, with a grade of C
This course in project management covers the basic principles, processes, and tools of modern project management. Principles and areas of the Project Management Body of Knowledge (PMBOK) are covered utilizing information technology examples.

ISM 4323 Information Security and IT Risk Management (3) BA QMB
PR: ISM 3011 with a grade of C
Senior standing, all majors. Introduction to information security and IT risk management in organizations. Covers essential IT general controls and frameworks to assess IT risk in a business environment.

ISM 4381 Information Systems for Healthcare Analytics (3) BA QMB
PR: ISM 3011 with a grade of "C" or better (not C-).
Role of information technology in global business organizations and challenges in building information systems to enable global operations.

ISM 4400 Decision Support Systems (3) BA QMB
PR: QMB 3200, with a grade of C- and (ISM 3011 or ISM 3113, with a grade of C)
Study of quantitative analysis tools and their use in organizational decision making. Emphasis on a structured approach to making common business decisions, demonstrating several forms of mathematical modeling and other management science techniques.

ISM 4402 Business Intelligence (3) BA QMB
PR: ISM 4212, with a grade of C or better
For undergraduate information systems students, as well as other interested business students. The course covers the rapidly emerging business intelligence and data mining technologies that are likely to play a strategic role in business organizations.

ISM 4432 Software Testing (3) BA QMB
PR: ISM 3113
The quality assurance of software systems requires rigorous methods for the verification of requirements, design, and implementation. This course surveys the best practices of software testing and explores the latest research ideas.
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ISM 4480 Electronic Commerce Systems (3) BA QMB
PR: ISM 3011 with a grade of "C" or better (not C-)
Familiarize students with the opportunities and challenges associated with e-commerce and its business models, to explore the underlying technologies used in implementing e-commerce systems, and to develop the skills needed to manage effective Web sites.

ISM 4542 Statistical Programming for Business Analytics (3) BA QMB
PR: QMB 3200, with a grade of C-
This course introduces SAS as a statistical programming tool to explore data for managerial purposes such as maintaining or improving day-to-day operations or identifying new opportunities.

ISM 4543 Applied Data Science (3) BA QMB
PR: ISM 3232 with a minimum grade of C, QMB 3200 with a minimum grade of C-
Applied Data Science is a hands-on course using projects, providing in-depth understanding and application of programming, machine learning, and cognitive computing.

ISM 4547 Excel with SQL for Business Analytics (3) BA QMB
PR: CGS 2100 with a minimum grade of C-
This project-based course provides students with an opportunity to explore business analytics using advanced Excel techniques, incorporating SQL.

ISM 4571 Cybersecurity Cases (3) BA QMB
PR: ISM 3011 with a grade of C-
A discussion course that uses case studies to enhance the students’ judgment in complex situations involving cybersecurity and a substantial individual project to enhance their ability to apply these skills.

ISM 4905 Independent Study (1-6) BA QMB
Independent study as directed by designated faculty.

ISM 4930 Selected Topics in MIS (1-3) BA QMB
Selected topics in MIS.

ISM 4940 Business Analytics & Information Systems Internship (3) BA QMB
The course focuses on professional development skills and an experiential learning experience. The on-site experience averages 10 hrs/week for a total of 120 hours and provides industry experience and the ability to apply knowledge of business practices.

ISM 4950 Independent Research (1-6) BA QMB
Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

ISM 4970 Information Systems Honors Thesis WRIN 6ACT (3) BA QMB
This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

ISS 1101 Knowledge and Society (3) AS ISS
Course introduces students to issues concerning the relationship between knowledge and society. Among the issues addressed are competing accounts of knowledge and the relationship between knowledge and other forms of human experience and different aspects of social life such as religion, morality, aesthetics, politics, and gender.

ISS 1102 Self and Society (3) AS ISS
This course considers the history of the intellectual and social underpinnings of individualism. Why do we consider ourselves “selves,” independent of social forces which we so readily recognize in others?

ISS 1103 Nature and Culture (3) AS ISS
This course examines competing ideas and theories concerning the relationship between nature and culture. Among the issues and questions examined are the relationship between nature and our awareness of it; to what extent is nature transformable; should “nature” dictate the shape of social institutions; how does technology affect our society and environment.

ISS 3010 Introduction to the Social Sciences GCPC (3) AS ISS
Integrates the range of social science fields into a global interdisciplinary perspective. Views social institutions and issues from perspectives of changing paradigms.

ISS 3930 Selected Topics in the Social Sciences (1-3) AS ISS
Interdisciplinary studies of varying topics, with course content dependent on student demand and instructor's interest.

ISS 4151 Native American Women (3) AS ISS
An interdisciplinary examination of lives of Native American Women, past and present, Topics include history, education, politics, family, etc.

ISS 4900 Directed Readings (1-3) AS ISS
A supervised program of intensive reading of interdisciplinary materials in areas of specific interest.

ISS 4910 Directed Research (1-3) AS ISS
A supervised program of interdisciplinary research in areas of specific interest.

ISS 4935 Seminar in the Social Sciences CPST GCPC (3) AS ISS
PR: ISS 3010
The seminar which caps the interdisciplinary major. Weds personal curiosity with the application of theoretical models to research on salient social issues.

ITA 1120 Beginning Italian I (4) AS WLE
The first course in the study of elementary Italian. Emphasis is on the development of basic skills in comprehension, speaking, and reading.

ITA 1121 Beginning Italian II (4) AS WLE
The second course in the study of elementary Italian. Emphasis is on the development of basic skills in comprehension, speaking and reading.

**ITA 2200 Italian III (3) AS WLE**
PR: ITA 1121 or equivalent.
Readings in Italian on the elementary level. A review of the basic structure of spoken and written Italian.

**ITA 2201 Italian IV (3) AS WLE**
PR: ITA 2200.
This course marks the fourth level in the acquisition of Italian language. It continues to encourage students to speak, listen, read and write in the target language through frequent communicative activities.

**ITA 2240 Italian Conversation (3) AS WLE**
PR: ITA 2200
This advanced-level Italian course belongs to the third level of modules leading to proficiency. It aims at consolidating student’s knowledge of Italian grammar and vocabulary with the ultimate goal of fostering accuracy in Italian conversation.

**ITA 2241 Italian Conversation II (3) AS WLE**
PR: ITA 2241
This advanced-level Italian course belongs to the third level of modules leading to proficiency. It aims at consolidating student’s knowledge of Italian grammar and vocabulary with the ultimate goal of fostering accuracy in Italian conversation.

**ITA 3234 Reading and Writing in Italian (3) AS WLE**
PR: Beginning Italian I & II; & two of ITAIII, ITAIV, ITA 2240, ITA 2241, or ITA 3420
This course marks an advanced level in the acquisition of Italian language. It continues to encourage students to speak, listen, read, and write in the target language through intensive reading.

**ITA 3420 Composition (3) AS WLE**
A fundamental composition course for students who have completed ITA 2200.

**ITA 3470 Overseas Study (1-6) AS WLE**
An intensive study-travel project in Italy.

**ITA 4930 Special Topics (1-3) AS WLE**
This course focuses on any area of special interest of students or faculty in Italian studies. The topics and hours may vary by semester, and may be taught in either English or Italian.

**ITT 3504 Italian Culture Through Film (3) AS WLE**
An overview of Italian culture from the Unification to the present. It aims at tracing the ways in which the concept of Italian culture has been defined according to different social, historical, and political perspectives. Taught in English.

**ITT 4505 Italy & the Italian-American Experience (3) AS WLE**
The focus of this course is on the representation of Southern Italy in a selection of novels, films, memoir writing, and music and on the history of the Italian diaspora – mainly made of Southerners migrated to the United States.

**ITT 4531 Italian Food in Film GCPC (3) AS WLE**
This course explores Italian food represented in different cinematic texts and its connection to culture, economics, and politics in Italy and beyond.

**ITW 4100 Survey of Italian Literature I (3) AS WLE**
The course aims at providing an introduction to the study of Italian Medieval and Renaissance literature and civilization. The course may be taught as a survey course or it may focus on any author, period, genre, or cultural theme.

**ITW 4101 Survey of Italian Literature II (3) AS WLE**
The course aims at providing an introduction to the study of Italian Modern and Contemporary literature and civilization. The course may be taught as a survey course or it may focus on any author, period, genre, or cultural theme.

**ITW 4905 Directed Study (1-3) AS WLE**
Selected topics in Italian literature.

**JOU 2100 Beginning Reporting (3) AS MCM**
PR: MMC 2100 and MMC 3602.
Basic instruction in news judgment, sources of news, newsgathering, and newswriting techniques for various media. Typing ability is required.

**JOU 3101 Advanced Reporting (3) AS MCM**
PR: JOU 2100 or RTV 3301 (RTV majors only), PHI 1103 and POS 2041.
CPR: JOU 4201
Reporting and writing the more complex and specialized story. Techniques of investigative and analytical reporting, including ethical and legal considerations.

**JOU 3302 Critical Writing: Editorials, Reviews, Columns (3) AS MCM**
PR: JOU 3101 and JOU 4201.
Interpretive and opinion writing for the mass media. Analysis and discussion of current events as a basis for critical thinking and editorial writing. Evaluation of editorial pages of leading newspapers. Study of journalistic techniques involved in writing reviews and personal columns.

**JOU 3308 Magazine Article and Feature Writing (3) AS MCM**
PR: CRW 2100 and JOU 2100.
Planning, researching, writing, and marketing articles for general and special interest magazines and newspaper supplements. Experiences in developing article ideas and analysis of magazine articles.

**JOU 3940 Reporting Practicum (1) AS MCM**
PR: JOU 3101
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

**JOU 4181 Public Affairs Reporting (3) AS MCM**
PR: JOU 3101 or RTV 3301 (RTV majors only), POS 2041 and POS 2112 or POS 3142.
Covering city council meetings, courthouse, city hall, courts, society, and other special
assignments. Emphasis is on coverage of major governmental units of all levels of government, including examination and interpretation of public documents and records.

JOU 4201 News Editing I (3) AS MCM
PR: ECO 1000, JOU 2100, and SYG 2010.
Evaluating news and its display. Editing and rewriting copy for the mass media including new media, with emphasis on the daily newspaper. News judgment, headlines and makeup. Ethical problems. Introduction to theories of design and graphics.

JOU 4212 Magazine Design and Production (3) AS MCM
PR: JOU 4201.
Theoretical and practical application of design principles for magazines. Design software. Study of visual design, page architecture, typography, color and illustrations. Integration of design elements in the design of magazine covers. Design elements specific to magazine and production preparation.

JOU 4213 Newspaper and News Publication Design (3) AS MCM
PR: JOU 4201.
Theoretical and practical applications of newspaper and news publication design, including typography, graphics, graphics software and electronic picture editing. Exercises in design for newspapers and new publications in both print and electronic formats.

JOU 4941 Editing Practicum (1) AS MCM
PR: JOU 4201.
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

JOU 4944 Magazine Practicum (1) AS MCM
PR: JOU 4201.
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

JOU 5105 Newswriting and Editing (3) AS MCM
Introduction to the basics of gathering, writing, and editing the news, with an emphasis on practical assignments done under professional conditions and standards. Discussions, readings emphasize the larger context and implications of news.

JOU 5344 Multimedia Journalism (3) AS MCM
The course is designed to bring components of print, web and broadcast writing together to develop skills for and understanding of the multimedia environment. It is restricted to majors and not repeatable for credit.

JPN 1120 Modern Japanese I (4) AS WLE
An intensive study of basic skills: pronunciation, listening comprehension, speaking, and some composition.

JPN 1121 Modern Japanese II (4) AS WLE
A continuation of JPN 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

JPN 2220 Modern Japanese III (4) AS WLE
PR: JPN 1121 or equivalent.
Continuing study to attain basic proficiency in Japanese.

JPN 2221 Modern Japanese IV (4) AS WLE
PR: JPN 2220 or equivalent.
Continuation of JPN 2220.

JPN 3400 Japanese V (3) AS WLE
PR: JPN 3400 with a minimum grade of C
This course is the fifth course in the Japanese language sequence and is designed to integrate all the language skills. It is also intended to develop communication strategies, cultural awareness and connections.

JPN 3401 Japanese VI (3) AS WLE
PR: JPN 3400 with a minimum grade of C
This course is the sixth course in the Japanese language sequence and designed to guide your Japanese from a low intermediate level to a high intermediate level by integrating all the language skills.

JPN 4905 Directed Study (1-5) AS WLE
Permits study options in Japanese not available in regularly scheduled curriculum at departmental discretion.

JPN 4930 Selected Topics (1-3) AS WLE
Course permits study options in Japanese not available in regularly scheduled curriculum at departmental discretion.

LAE 4311 Teaching Print and Multimodal Texts in Elementary Education (3) ED TAL
PR: LAE 4424.
The purpose of this course is to understand children’s writing processes and effective instructional strategies for supporting composition.

LAE 4314 Teaching Writing in the Elementary School, Grades K-6 (3) ED TAL
The purpose of this course is for students to understand children's writing development and to design and implement instructional strategies for teaching composition in an integrated Language Arts curriculum.

LAE 4323 Methods of Teaching English: Middle School (3) ED TAL
Whole language methods of integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature-based program for middle school students.

LAE 4332 Traditional English Grammar for Teachers (3) ED TAL
Prepares teachers to teach secondary English with an interactive approach to grammar instruction in which students learn, not only the basic elements of English grammar, but also pertinent and engaging classroom activities for teaching grammar.
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LAE 4335 Methods of Teaching English: High School (3) ED TAL
CR: LAE 4446.
Whole language methods of integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature-based program for high school students.

LAE 4414 Children’s and Young Adult Literature: Trends and Issues WRIN 6ACT (3) ED TAL
Students will develop an appreciation of children’s literature as a literary and visual art form and develop strategies for critically evaluating texts created for children and youth.

LAE 4424 Teaching Children’s Literature (3) ED TAL
Building on an appreciation for children’s literature, this class is for undergraduate teacher candidates to learn how to select quality literature for children and to demonstrate instructional strategies for developing children’s engagement.

LAE 4464 Adolescent Literature for Middle and Secondary Students 6ACT (3) ED TAL
A study of the types of literature read by adolescents with an emphasis upon the criteria for the choice of good books and knowledge of available books and teaching materials.

LAE 4469 Teaching World Literature to Middle and Secondary Students (3) ED TAL
World literature encompasses more than Western European literature. This course is designed to emphasize, but is not limited to, the study of Eastern literature. This course fulfills the world literature course requirement for teacher certification in English.

LAE 4530 Methods of Teaching English: Practicum (3) ED TAL
This course provides students an opportunity to demonstrate their ability to plan, deliver instruction, and reflect upon the effectiveness of their teaching in secondary school English/Language Arts classrooms. Course is restricted to majors.

LAE 4936 Senior Seminar in English Education CPST (3) ED TAL
Synthesis of teacher candidate’s courses in complete college program.

LAE 4940 Internship: English Education (1-12) ED TAL
One full semester of internship in a public or private school. Intern takes Senior Seminar in English Education concurrently. In special programs where the intern experience is distributed over two or more semesters, student will be registered for credit which accumulates from 9 to 12 semester hours.

LAE 5462 Young Adult and World Literature for New Teachers (3) ED TAL
A study of the types of literature read by adolescents, including literature representative of other cultures, with emphasis upon the criteria for the choice of good books and knowledge of available books and teaching materials.

LAE 5862 Classroom Communication in English Education (3) ED TAL
Identifies characteristics of classroom communication environment; offers insights, info, instructional strategies designed to help you become effective classroom communication managers. Emphasis on role of media & non-print texts in students’ lives.

LAE 5932 Selected Topics in the Teaching of English (3) ED TAL
Investigation of topics which are of special interest to the student and are related to the teaching of English in the secondary school. Topics will be selected by the student in accordance with his particular goals and will be approved by the student's graduate advisor.

LAH 2020 Latin American Civilization CAGC HHCP (3) AS HTY
This course introduces the principle historical events, trends, conflicts and outcomes that have shaped the Spanish and Portuguese Americas from the Pre-Columbian period (prior to 1492) to the present.

LAH 2733 Latin American History in Film (3) AS HTY
Through the use of films and readings, the course introduces the broad sweep of Latin American history from the pre-Columbian period to today. Emphasis is placed on the social-cultural context to understand the peoples and events that have shaped Latin America.

LAH 3130 Colonial Latin America (3) AS HTY
A study of the Spanish and Portuguese Colonial empires in the New World from 1492-1830.

LAH 3200 Modern Latin America (3) AS HTY
A study of the emergence of the Latin American states. The course will examine developments in Latin America during the nineteenth and twentieth centuries. Special attention is given to the Third World character of the region.

LAH 3430 History of Mexico (3) AS HTY
Mexican history from pre-Columbian cultures to the twentieth century. Emphasis falls on the colonial political economy, social development, the wars of independence, development of the 19th century Mexican state and the Mexican revolution.

LAH 3470 History of the Caribbean (3) AS HTY
A thematic study of the circum-Caribbean from pre-Columbian cultures to the twentieth century, emphasizing the development of the Caribbean political economy with emphasis on monoculture, plantation society, and colonial/neo-colonial relationships.

LAH 3480 History of Cuba (3) AS HTY
Cuban history from pre-Columbian cultures to the Cuban Revolution. Emphasis on colonization, the sugar economy, the struggles for independence,
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LAT 2221 Intermediate Latin II (4) AS WLE
Political, economic and cultural history of Brazil from colonization to the present with emphasis on the twentieth century. Topics include colonization, slavery, independence, nation building, economic development, the Cold War, race, class and gender.

LAT 2220 Intermediate Latin (4) AS WLE
An introductory course in Latin grammar with appropriate readings.

LAT 1121 Beginning Latin II (4) AS WLE
This class will introduce students to their first Latin author, and to the techniques and skills of intermediate work in Latin. It will also provide a comprehensive review of Latin Grammar. It is not restricted to majors, and not repeatable for credit.

LAT 1120 Beginning Latin I (4) AS WLE
This course is repeatable up to 9 hours.

LAS 4940 Internship in Latin American and the Caribbean (1-3) AS GIA
This course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems.

LAS 4934 Selected Topics: Latin American Studies (1-3) AS GIA
Latin America region will be analyzed through different specific topics to provide students analytical tools to understand hemispheric relations and the relevance of this complex region for the USA. Open to non-majors, repeatable up to 09 credits.

LAS 4940 Internship in Latin American and the Caribbean (1-3) AS GIA
Leadership course designed for Greek Life board members, chairpersons of chapters, governing councils and auxiliary organizations. Study of group processes and applications for building and leading organizations from corporate and non-profit perspectives.

LAS 4023 African Diaspora in Latin American and the Caribbean CAGC HHCP (3) AS AFA
This course will use film, video, selected readings, and lectures to teach the interested student about Latin America.

LAS 3116 Latin America Through Film (3) AS GIA
This course explores the role of leadership in movements of social change. Grand feats to small initiatives and even failed attempts will be analyzed in order to consider the common practices of those who seek to improve society.

LAS 3002 Latin America (3) AS GIA
This course offers students interested in the dynamics of contemporary leadership the opportunity to explore relevant leadership trends and examine contemporary leadership theories.

LAS 3001 Latin America: An Introductory Survey (3) AS GIA
This course will examine the complex challenges of leadership through the examination of leaders and workforce situations. Designed to view leadership as a process focusing on the leader, the followers, and
real-world workplace situations. Appropriate for working adults.

**LDR 3930 Selected Topics in Leadership (0-3) US LDR**
Course content will depend upon the interest of the faculty member and student demand. Repeatable up to 15 credits.

**LDR 4104 Theories of Leadership (3) US LDR**
PR: LDR 2010 or LDR 3331, with a minimum grade of C-. Focuses on historical and modern views of leadership. It is designed to assist students analyzing and understanding the historical, social, political aspects of leadership theories and styles as well as the application of leadership theories in settings.

**LDR 4114 Survey of Leadership Readings (3) US LDR**
Survey of historical and contemporary writings on leadership skills and practices. Examines the contextual manner in which the leader functions.

**LDR 4164 Organizational Theories and Processes (3) US LDR**
PR: LDR 2010 or LDR 3331, with a minimum grade of C-. Participants will delve into the nature of organizational dynamics, they will utilize concepts, generalizations, theories, and frames of reference to analyze organizations and leadership to understand and improve their function.

**LDR 4204 Ethics and Power in Leadership (3) US LDR**
Course reviews arguments for ethics in leadership as proposed by both contemporary and ancient leadership theories. It also examines theories of power and authority, and seeks answers to the apparent dilemmas through applied moral theory and psychology.

**LDR 4230 Global Leadership (3) US LDR**
A focus on historical and contemporary issues concerning the role, responsibilities and processes for leaders in the global environment. Addresses leadership concerns relating to social, cultural, ethical, political, economical, and environmental issues.

**LDR 4564 Images of Leadership in the Media (3) US LDR**
This course examines the historical development of leadership theory through contemporary times. Surveys literature and other media relevant to role of the leader and to the development and application of leadership skills.

**LDR 4951 Leadership Capstone Seminar (3) US LDR**
PR: LDR 4104
This is the culminating course/experience for the Leadership minor assisting students in the integration of their study of leadership. Students will analyze and synthesize the concept of leadership using cultural, ethical, sociological, political, economic and historical perspectives addressed in prior Leadership courses.

**LIN 2002 Language, Culture & Film CAHU (3) AS WLE**
Offers initial exposure to foreign languages and cultures. Through lecture, demonstration, discussion, and the viewing of full-length feature films, students are introduced to a variety of prominent modern and ancient languages and cultures.

**LIN 2670 English Grammar and Usage (3) AS ENG**
A course in the basics of traditional English grammar designed as a complement to our composition and creative writing courses, as a review for those students who will take preprofessional exams, and as a basic course for students interested in improving their knowledge of English. Will not count toward the English major.

**LIN 3003 Language Matters GCPC (3) AS WLE**
This course aims to encompass issues regarding language, culture, and myths, including the facts about language learning, cultural dynamics in relation to the use of language, and current cross-cultural issues in the aspect of language as a medium.

**LIN 3010 Introduction to Linguistics (3) AS WLE**
Introduction to the basic principles of linguistic science; phonological and grammatical analysis and description; language change and genetic relationships.

**LIN 3801 Language and Meaning 6ACT (3) AS WLE**
A survey introduction for non-specialists to the basic principles of semantics and the way language conveys ideas. This course is also available on WUSF/TV Channel 16 by the O.U. Program.

**LIN 4350 Sound Systems in American English (3) AS WLE**
A comprehensive overview of the phonology and phonetics of the English language with a focus on both research and pedagogy. Theoretical and practical introduction to pronunciation teaching.

**LIN 4671 Traditional English Grammar (3) AS ENG**
A course primarily using the sentence diagram to present a detailed analysis of the parts of speech, verb tenses, sentence functions, and other basic grammatical classifications of traditional English grammar.

**LIN 4680 Structure of American English (3) AS ENG**
An introductory survey of traditional, structural, and generative transformational grammars and their techniques for the analysis and description of linguistic structure in general, and contemporary American English, in particular.

**LIN 4701 Psycholinguistics (3) AS WLE**
General introduction to the theory and methodology of psycholinguistics at the undergraduate level.
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIN 4721</td>
<td>Second Language Acquisition GCPC</td>
<td>3</td>
<td>General introduction to second language acquisition theories at the undergraduate level including characteristics of learner language.</td>
</tr>
<tr>
<td>LIN 4903</td>
<td>Directed Reading (1-3)</td>
<td>WLE</td>
<td>Readings in special topics.</td>
</tr>
<tr>
<td>LIN 4930</td>
<td>Selected Topics (1-3)</td>
<td>WLE</td>
<td>Course content depends upon students’ needs and instructor's interest and may range over the entire field of linguistics.</td>
</tr>
<tr>
<td>LIN 5700</td>
<td>Applied Linguistics (3)</td>
<td>WLE</td>
<td>Analysis of the phonological, morphonological, and syntactic features of English as a basis for linguistic application to problems of English language acquisition by non-native speakers.</td>
</tr>
<tr>
<td>LIS 2005</td>
<td>Library and Internet Research Skills CASB (3)</td>
<td>AS LIS</td>
<td>This course covers the development of undergraduate research and critical thinking skills to identify, evaluate, and use appropriate information sources to address educational, research, and other information needs.</td>
</tr>
<tr>
<td>LIS 2937</td>
<td>Selected Topics in Library/Information Science (1-3)</td>
<td>AS LIS</td>
<td>Covers a variety of topics in the field of library/information science such as emerging technologies, administration and service, and current professional issues.</td>
</tr>
<tr>
<td>LIS 3261</td>
<td>Introduction to Information Science (3)</td>
<td>AS LIS</td>
<td>Foundations of the discipline, history, core theories and methodologies, and approaches to information science, with an emphasis on the critical role of information technology. Majors only or permission of instructor.</td>
</tr>
<tr>
<td>LIS 3352</td>
<td>Interaction Design (3)</td>
<td>AS LIS</td>
<td>PR: LIS 3353. Covers the process of interaction design with an emphasis on a user-centered approach. Major topics include cognition; user needs assessment, interface design, modeling, prototyping, usability testing, and evaluation. Majors only or permission of instr.</td>
</tr>
<tr>
<td>LIS 3353</td>
<td>IT Concepts for Information Professionals (3)</td>
<td>AS LIS</td>
<td>Covers the history, development, and current state of computer hardware and software. Also examines programming basics, networks, the internet and web, emerging technologies, information industries, and careers. Majors only or permission of instructor.</td>
</tr>
<tr>
<td>LIS 3783</td>
<td>Information Architecture (3)</td>
<td>AS LIS</td>
<td>PR: LIS 3103. Covers design, organization, implementation, and maintenance of digital information spaces for human access, navigation, and use. Examines core concepts and dominating technologies in IA. Majors only or permission of instructor.</td>
</tr>
<tr>
<td>LIS 4029</td>
<td>Professional &amp; Technical Comm. for Analysts (3)</td>
<td>AS LIS</td>
<td>PR: LIS 3261. Professional and Technical Communication for Analysts introduces students to how they can critically think about risks, threats, and uncertainties, to write and brief effectively and to work productively on individual and group projects.</td>
</tr>
<tr>
<td>LIS 4204</td>
<td>Information Behaviors (3)</td>
<td>AS LIS</td>
<td>PR: LIS 3261. Theories and issues surrounding various information behaviors, such as information needs, seeking, and use, and understanding the practices of information professionals and design of information systems. Majors only or permission of instructor.</td>
</tr>
<tr>
<td>LIS 4273</td>
<td>Advanced Statistics and Analytics (3)</td>
<td>AS LIS</td>
<td>PR: STA 2023 or STA 2122. Building on elementary statistics, this course focuses on the assumptions, mechanisms, and data science applications for advanced statistical topics, such as logistic regression, maximum likelihood, bootstrapping, nonparametrics, &amp; Bayesian methods.</td>
</tr>
<tr>
<td>LIS 4317</td>
<td>Introduction to Visual Analytics (3)</td>
<td>AS LIS</td>
<td>PR: LIS 4800 with minimum grade of C-, LIS 4273 with minimum grade of C-. This course introduces the science of analytical reasoning facilitated by combining statistical analysis with visualizations methods and techniques to promote effective understanding, reasoning and decision-making involving data.</td>
</tr>
<tr>
<td>LIS 4365</td>
<td>Web Design Technologies (3)</td>
<td>AS LIS</td>
<td>PR: LIS 3361. Exploration of advanced applications of key Web Technologies. Majors only or permission of instructor.</td>
</tr>
<tr>
<td>LIS 4370</td>
<td>R Programming for Data Science (3)</td>
<td>AS LIS</td>
<td>PR: LIS 4800, LIS 4273. This course teaches the use of R, a programming language and software environment for statistical computing and graphics, in applied Data Science. According to InfoWorld, R is the preferred statistical application among data scientists.</td>
</tr>
<tr>
<td>LIS 4380</td>
<td>Information and Social Media (3)</td>
<td>AS LIS</td>
<td>Focusing on social media immersion this course explores the roles of people, information, technology and social structures to discover new ways information can contribute to personal goals, an organization's success, and societal inclusion in general.</td>
</tr>
<tr>
<td>LIS 4414</td>
<td>Information Policy and Ethics (3)</td>
<td>AS LIS</td>
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</tr>
</tbody>
</table>
Examines issues related to information use in today's society. Topics include governmental regulations and policies, information literacy, digital divide, information ethics, and intellectual property issues. Majors only or permission of instructor.

**LIS 4477 Clinical Decision Support (3) AS LIS**
This course examines how to take advantage of the ever increasing amounts of data available to healthcare professionals and utilize systems for knowledge discovery and clinical decision support.

**LIS 4482 Networks and Communication (3) AS LIS**
PR: LIS 3353.
This course is designed to provide a solid foundation in data communication and networking. Topics include local area networks (LANs), wide area networks (WANs), protocols used to implement networks & management issues of IT professionals. Majors or PI.

**LIS 4671 Introduction to Intelligence Studies (3) AS LIS**
This course will introduce the students to the field of intelligence studies and to the U.S. intelligence community and its processes and practices.

**LIS 4672 Critical Thinking & Methods for Intel Analysis (3) AS LIS**
This course will introduce students to critical thinking and sensemaking as it applies to intelligence analysis, providing connections between the study of intelligence analysis and human judgment and decision-making.

**LIS 4673 Open Source Intelligence (OSINT) (3) AS LIS**
This course introduces students to the collection and integration of publicly available information and its uses in addressing specific information or intelligence requirements.

**LIS 4761 Introduction to Data & Text Mining (3) AS LIS**
PR: LIS 4800, LIS 4273
Introduction to the Data Mining provides an in-depth study of what data mining is, how it is used, and how it has evolved, including different data types and applications of new technologies.

**LIS 4762 Geographic Information Systems for Data Science (3) AS LIS**
PR: LIS 4800
This course introduces the basic principles and techniques of Geographic Information Systems (GIS) with their applications to Data Science, and provides hands on experience with GIS analysis.

**LIS 4776 Health Information Technology (3) AS LIS**
The course focuses on students applying the IT knowledge to address real-life problems in the health community. Students address various topics with emerging technical solutions that can help improve health service, and health decision making.

**LIS 4779 Health Information Security (3) AS LIS**
Examines soft and technological threats to protected health information and methods for reducing these threats with a focus on HIPAA compliance.

**LIS 4785 Introduction to Health Informatics (3) AS LIS**
Introduction to core concepts and practices in the interdisciplinary field of Health Informatics.

**LIS 4800 Introduction to Data Science (3) AS LIS**
Introduction to Data Science will provide an overview of an up-and-coming field in the information sciences working with large amounts of data as it pertains to the collection, organization, analysis, visualization and preservation of that data.

**LIS 4805 Predictive Analytics (3) AS LIS**
PR: LIS 4800 with a minimum grade of C-, LIS 4273 with a minimum grade of C-, LIS 4317 with a minimum grade of C-, LIS 4761 with a minimum grade of C-, LIS 4370 with a minimum grade of C-
This course will introduce the students to predictive analytics and analysis of probabilities and future trends using statistical algorithms and machine-learning tools.

**LIS 4930 Selected Topics in Information Studies (3) AS LIS**
Covers a variety of topics in the field of library/information science such as emerging technologies, administration and service, and current professional issues.

**LIS 5020 Foundations of Library and Information Science (3) AS LIS**
Introduction to the study of library and information science, history; organization; specialized literature; outstanding leaders; current trends, issues, and problems; the place of the information agency in society with its contributions to that society.

**LIS 5268 Microcomputer Applications Library and Information Centers (3) AS LIS**
Microcomputer hardware and software for libraries and their application in library/information settings. Projects using major applications for budgets, databases, and telecommunications are undertaken.

**LIS 5315 Instructional Graphics (3) AS LIS**
Theoretical aspects, planning and production of instructional graphic material. The theory of graphic communications. Interpreting needs for instructional materials appropriate for given behavioral objectives.

**LIS 5333 TV in Schools and Libraries (3) AS LIS**
Small format video tape recordings and the utilization of open and closed broadcasts in schools and libraries.

**LIS 5418 Health Informatics for Medical Librarians (3) AS LIS**
PR: LIS 5020 or LIS 6620
CR: LIS 6475.
Introduction to the interdisciplinary field of medical informatics highlighting the underlying theories,
and methods related to health information technology in support of decision-making, problem-solving, and other health information problems.

LIS 5566 Multicultural Literature for Children and Young Adults (3) AS LIS
Students will select and evaluate multicultural and special population materials for effective use in youth services and programs in public and school libraries.

LIS 5631 Health Information Sources (3) AS LIS
PR: LIS 6603
Introduction to printed and electronic sources of health information. Course material is intended for those interested in medical, public, or academic libraries where clients need health-related information.

LIS 5802 Information Analytics (3) AS LIS
PR: STA 2023 or STA 2122 or QMB 2100
This course teaches the basics of data science, visualization, and the use of R, a programming language and software environment for statistical computing and graphics.

LIS 5937 Selected Topics in Library Studies (1-4) AS LIS
Covers a variety of topics in such areas as collection development, reference services, technical services, and administration.

LIT 2000 Introduction to Literature CAHU 6ACT (3) AS ENG
This course will introduce students to the three major literary forms of prose, poetry and drama as well as to various "schools" of literary criticism. Will not count toward the English major.

LIT 2010 Introduction to Fiction CAHU 6ACT (3) AS ENG
A study of the short story and novel as literary forms; approached from an historical perspective though not restricted to any historical period. Will not count toward the English major.

LIT 2020 Introduction to the Short Story CAHU HHCP 6ACT (3) AS ENG
Introduction to the formal elements of the short story, analysis and interpretation, application of major types of literary criticism, the history of the genre and its interaction with its social context. Will not count toward the English major.

LIT 2030 Introduction to Poetry CAHU 6ACT (3) AS ENG
A study of the poem as literary form; approached from an historical perspective though not restricted to any historical period. Will not count toward the English major.

LIT 2040 Introduction to Drama CAHU 6ACT (3) AS ENG
This course will introduce students to the literary form of drama as well as to the various "schools" of literary criticism. Will not count toward the English major.

LIT 3022 Modern Short Prose (3) AS ENG
PR: ENC 1101 and ENC 1102.
This course for English majors and minors explores modern short prose in World, British, and American literatures; genres include the short story, the long short story, the short novel, and the essay. Not repeatable.

LIT 3031 Survey of Poetry (3) AS ENG
A chronological sampling of the major poems written in English from the Middle Ages to the present. Recommended as the first literature course in the CRW (Poetry emphasis) Option.

LIT 3043 Modern Drama (3) AS ENG
A study of such modern and contemporary dramatists as Ibsen, Strindberg, Chekhov, Pirandello, Shaw, O'Neill, Pinter, Stoppard, Brecht, Beckett, and Ionesco.

LIT 3093 Contemporary Literature (3) AS ENG
An introduction to the fiction, poetry, and drama written since 1945—American, British, Continental, or Multicultural. Focus may be on one, two, or all three genres or on works from any combination of nationalities.

LIT 3101 Literature of the Western World Through the Renaissance (3) AS ENG
A study in English of the great works of Western Literature from its beginnings through the Renaissance, including the Bible, Homer, Sophocles, Plato, Euripides, Virgil, Cicero, Dante, Petrarch, Machiavelli, and Rabelais, among others.

LIT 3102 Literature of the Western World Since the Renaissance (3) AS ENG
A study in English of the great works of Western Literature from the Neoclassic to the Modern Period, including such writers as Moliere, Racine, Voltaire, Dostoevsky, Chekhov, Ibsen, Kafka, Gide, Sartre, and Camus, among others.

LIT 3103 Great Literature of the World WRIN 6ACT (3) AS ENG
A survey of world literature including samples from the ancient and modern era, Western and Eastern traditions, male and female writers, and various ethnic cultures. Focus on values/ethics, race, ethnicity and gender; thinking and writing skills. Will not count toward the English major.

LIT 3144 Modern European Novel 6ACT (3) AS ENG
A study of the Modern European novel in translation as it developed from the nineteenth century to the present, including such writers as Dostoevsky, Flaubert, Kafka, Hesse, Camus, and Solzhenitsyn.

LIT 3155 Twentieth-Century Literature WRIN 6ACT (3) AS ENG
Examines major literary works of the 20th Century written in English and explores ways authors have expressed the age, its great issues and conflicts, in order to gain an historical perspective that will help relate the present to the recent past. Will not count toward the English major.

LIT 3301 Cultural Studies and the Popular Arts WRIN 6ACT (3) AS ENG
COURSE DESCRIPTIONS

A study of American and international cultures as they are represented in the film, fiction, and other cultural artifacts of various ethnic groups and nationalities. Focuses on values/ethics, race, ethnicity and gender; thinking and writing skills. Will not count toward the English major.

LIT 4374 The Bible As Literature WRIN 6ACT (3) AS ENG
Major emphasis on literary types, literary personalities of the Old (Fall semester) and New (Spring semester) Testaments, and Biblical archetypes of British and American literary classics. Focuses on values/ethics, race, ethnicity and gender; thinking and writing skills. May be taken twice for credit with different subject matter. May count once toward the major.

LIT 4386 British and American Literature by

LIT 4233 Postcolonial Literature (3) AS ENG
This course is a critical introduction to Postcolonial Literature. We will strive to understand the colonial encounter as it has shaped and continues to shape global modernity and some of the new literature in its cultural and historical contexts.

LIT 4386 British and American Literature by

Women 6ACT (3) AS ENG
Survey of women's literary tradition in England and America from the seventeenth century to the present. Thematic focus includes self, marriage, sexuality, madness, race and generations. Writing intensive.

LIT 4804 Literature as Cultural Study (3) AS ENG
The study of literary texts as cultural artifacts. Literary texts as historical, social, political, psychological, philosophical, religious, etc. documents. Topics and works vary. Will not count toward the English major.

LIT 4930 Selected Topics in English Studies (1-3) AS ENG
The content of the course will be governed by student demand and instructor interest. It will examine in depth a recurring literary theme or the work of a small group of writers. Special courses in writing may also be offered under this title. May be taken twice for credit with different topics.

LNW 4501 Seneca and Roman Philosophy (3) AS WLE
Readings in the philosophical writings of Lucius Annaeus Seneca, together with an examination of Stoic, Epicurean, and Eclectic thought.

LNW 4644 Cicero (3) AS WLE
Readings in the epistles of Cicero.

LNW 4654 Horace (3) AS WLE
Readings in the Odes and Epodes of Horace; study of the Ode's tradition.

LNW 4900 Directed Reading (1-4) AS WLE
Study of an author, movement, or theme.

LNW 4930 Selected Topics (3) AS WLE
Study of an author, movement, or theme.

LNW 5900 Directed Reading (1-4) AS WLE

LNW 5934 Selected Topics (4) AS WLE
Study of an author, movement, or theme.

MAA 4211 Intermediate Analysis I 6AMT (3) AS MTH
PR: MAC 2313 and MAS 3105. Sequences, series, metric spaces, continuity, differentiation.

MAA 4212 Intermediate Analysis II 6AMT (3) AS MTH
PR: MAA 4211. Riemann-Stieltjes integration, uniform convergence, and related topics.

MAA 4402 Complex Variables 6AMT (3) AS MTH
PR: MAP 2302 Complex numbers, Cauchy-Riemann equations, analytic and conformal functions, power series, Cauchy Theorem, Cauchy Integral Formula, residue theory.

MAA 5306 Real Analysis I (3) AS MTH
PR: MAA 4211. Riemann-Stieltjes integrals, uniform convergence, Fourier series, Lebesgue measure and integration on R.

MAA 5307 Real Analysis II (3) AS MTH

MAA 5405 Applied Complex Analysis (3) AS MTH
Complex numbers, analytic and harmonic functions. Series, Contour integrals, residue theory. Conformal mappings. (A survey course emphasizing techniques and applications.)
### COURSE DESCRIPTIONS

**MAC 1105 College Algebra CAMA 6AMT (3) AS MTH**
PR: C (2.0) or better in MAT 1033, or 490 or better SAT Math score, or 21 or better ACT Math score, or 90 or better Elementary Algebra CPT score, or 40 or better College-Level Math CPT score.
Concepts of the real number system, functions, graphs, and complex numbers. Analytic skills for solving linear, quadratic, polynomial, exponential, and logarithmic equations. Mathematical modeling of real life applications. College Algebra may be taken either for General Education credit or as preparation for a pre-calculus course.

**MAC 1114 Precalculus Trigonometry 6AMT (2) AS MTH**
PR: C (2.0) or better in MAC 1105, or 550 or better SAT Math Score, or 24 or better ACT Math Score
CPR: MAC 1140.
Angles, trigonometric functions, properties and graphs of trigonometric functions, right triangles, laws of sines and cosines, polar coordinates.

**MAC 1140 Precalculus Algebra 6AMT (3) AS MTH**
PR: C (2.0) or better in MAC 1105, or 550 or better SAT Math Score, or 24 or better ACT Math Score.
CPR: MAC 1114.
Review of functions and graphs. Analytic geometry including conic sections and rotation of axes, systems of equations including matrix algebra and determinants, sequences and series including Binomial Theorem.

**MAC 1147 Precalculus Algebra and Trigonometry CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 1105, or 550 or better SAT Math score, or 24 or better ACT Math score, or 60 or better College-Level Math CPT score.
This is an accelerated combination of MAC 1140 and MAC 1114; this course is best for students who have already seen some trigonometry. See the descriptions of MAC 1140 and MAC 1114.

**MAC 2233 Business Calculus CAMA 6AMT (3) AS MTH**
PR: C (2.0) or better in MAC 1105, or C (2.0) or better in MAC 1140, or C (2.0) or better in MAC 1147, or 590 or better SAT Math score, or 26 or better ACT Math score, or 78 or better College-Level Math CPT score.
Linear equations and functions, mathematics of finance, differentiation and integration of algebraic, exponential and logarithmic functions with applications to business, finance and economics.

**MAC 2241 Life Sciences Calculus I CAMA 6AMT (3) AS MTH**
PR: C (2.0) or better in MAC 1114, or C (2.0) or better in MAC 1147, or 650 or better SAT Math score, or 29 or better ACT Math score, or 90 or better College-Level Math CPT score
No credit for math majors. Differentiation and integration of algebraic, trigonometric, exponential, and logarithmic functions with applications to life sciences.

**MAC 2242 Life Sciences Calculus II CAMA 6AMT (3) AS MTH**
PR: C (2.0) or better in MAC 2241.
Techniques of integration, differential equations, functions of several variables, series and Taylor polynomials.

**MAC 2281 Engineering Calculus I CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 1114 and C (2.0) or better in MAC 1140, or C (2.0) or better in MAC 1147, or 650 or better SAT Math score, or 29 or better ACT Math score, or 90 or better College-Level Math CPT score.
Differentiation, limits, differentials, extremes, indefinite integral. No credit for mathematics majors.

**MAC 2282 Engineering Calculus II CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 2281.
Definite integral, trigonometric functions, log, exponential, series, applications.

**MAC 2283 Engineering Calculus III CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 2282.
Techniques of integration, numerical methods, analytic geometry, polar coordinates, Vector algebra, applications.

**MAC 2311 Calculus I CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 1114 and C (2.0) or better in MAC 1140, or C (2.0) or better in MAC 1147, or 650 or better SAT Math score, or 29 or better ACT Math score, or 90 or better College-Level Math CPT score.
Differentiation, limits, differentials, extremes, indefinite integral.

**MAC 2312 Calculus II CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 2311.
Antiderivatives, the definite integral, applications, series, log, exponential and trig functions.

**MAC 2313 Calculus III CAMA 6AMT (4) AS MTH**
PR: C (2.0) or better in MAC 2312.
Integration, polar coordinates, conic sections, vectors, indeterminate forms and proper integrals.

**MAD 3107 Discrete Mathematics 6AMT (3) AS MTH**
PR: MAC 2281 or MAC 2311.
An introduction to some of the aspects of discrete mathematics that are fundamental to digital computing. Topics include sets, numbers, algorithms, Boolean algebra, computer arithmetic, elementary combinatorics and an introduction to graph theory.

**MAD 4203 Introduction to Combinatorics (3) AS MTH**
PR: MGF 3301.
Fundamental principles of counting. Topics include bijective proofs, arrangements and permutations, sets and multisets, the Principle of
Inclusion-Exclusion, partitions, generating functions, recurrence relations, and the Polya theory of counting.

MAD 4301 Introduction to Graph Theory (3) AS MTH
PR: MGF 3301
Fundamental principles of Graph Theory, including isomorphism, trees and connectivity, Eulerian circuitry, Hamiltonicity, matching theory, planarity, graph colorings, Ramsey theory, and graph algorithms.

MAD 4401 Numerical Analysis I 6AMT (3) AS MTH
PR: MAP 2302 and MAS 3105.
Numerical solution of algebraic and transcendental equations, interpolation and polynomial approximation, numerical differentiation and integration, numerical solution of differential equations.

MAD 4402 Numerical Analysis II (3) AS MTH
PR: MAD 4401.

MAD 4471 Introduction to Cryptography and Coding Theory (3) AS MTH
PR: MAS 3105 and MGF 3301
Cryptography combines the studies of cryptography, the creating of masked messages, and cryptanalysis, the unraveling of masked messages. Coding theory is the study of coding schemes used to detect and correct errors that occur during the data transmission.

MAD 4504 Theory of Computation 6AMT (3) AS MTH
PR: MGF 3301 or MAD 3107

MAD 5101 LISP: Programming With Algebraic Applications (3) AS MTH
PR: MHF 5306 or MAD 6510 or MAS 5311
Programming in LISP, functional languages, foundations of Lambda Calculus and algebraic applications (theorem proving and game playing).

MAD 5305 Graph Theory (3) AS MTH
PR: MAS 3105
Brief introduction to classical graph theory (4-color theorem, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Polya's Theorem, networks.

MAE 3224 Middle School Mathematics Methods Course 1 (3) ED TAL
This course provides prospective middle school teachers with initial skills to develop an inquiry-based learning environment that facilitates high academic achievement for all students, focusing on curriculum and learning at the task and lesson level.

MAE 3225 Middle School Mathematics Methods Course 2 (3) ED TAL
PR: Middle School Mathematics Residency Program Methods Course 1
This course provides prospective middle school teachers with advanced skills to develop an inquiry-based learning environment that facilitate high academic achievement for all students, focusing on assessment and learning at unit and semester levels.

MAE 3941 Practicum I: Middle School Mathematics Education (1-3) ED TAL
The candidate will spend six hours a week in an assigned school, becoming acquainted with the middle grades classroom, and providing supervised one-on-one, small group and whole group instruction and will attend university seminars.

MAE 3942 Practicum II: Middle School Mathematics Education (1-3) ED TAL
Candidates will spend nine hours a week in an assigned school, in a grade level or subject area other than the one completed in Practicum I, providing supervised one-on-one, small group, and whole group instruction, and will attend university seminars.

MAE 4310 Teaching Elementary School (K-6) Mathematics I (3) ED TAL
PR: two college level mathematics courses
Methods for teaching number ideas, computation skills, and mathematical reasoning in elementary (K – 6) classrooms.

MAE 4320 Teaching Mathematics in the Middle Grades (3) ED TAL
This course provides prospective middle school teachers the opportunity to develop concepts, skills, and pedagogical procedures for effective teaching of mathematics in grades 5-9.

MAE 4326 Teaching Elementary School (K-6) Mathematics II (3) ED TAL
PR: MAE 4310.
Methods for teaching informal geometry, measurement, probability, statistics, and algebraic thinking for elementary school (K – 6) classrooms.

MAE 4330 Teaching Senior High School Mathematics (3) ED TAL
PR: MAE 4320
The course is designed to prepare the student for a successful internship experience as well as an induction to teaching mathematics in the high schools of today. The experiences help bridge the perceived gap between theory and practice.

MAE 4551 Reading the Language of Mathematics (3) ED TAL
PR: MAE 4320
This course provides an opportunity to develop concepts, skills and procedures for effective communication (reading, writing, listening and
COURSE DESCRIPTIONS

MAN 4329 People Analytics (3) BA QMB
This course provides an overview of people analytics in today's organizations. It looks at how data is being increasingly utilized to drive data-
COURSE DESCRIPTIONS

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MAN 4402 Employment Laws (3) BA QMB
PR: MAN 3025, with a grade of C
This course covers Federal and state laws and regulations such as wage and hour laws; EEO; affirmative action programs; employee benefits; insurance; workers' compensation, safety, health, employee's personal rights and collective bargaining.

MAN 4430 Seminar in Negotiations and Administration of Labor Agreements (3) BA QMB
PR: MAN 3025, with a grade of C
Case studies in contract negotiation, administration, grievance settlement, and arbitration. Assumes familiarity with industrial relations system.

MAN 4441 Negotiation and Conflict Resolution (3) BA QMB
PR: MAN 3025 and MAN 3240, with a grade of C
Examines what conflict is, how it occurs, and how it can be managed through negotiation, particularly in the workplace.

MAN 4504 Operations Management: A Systems Approach (3) BA QMB
PR: QMB 2100 or STA 2023 or STA 2122, with a grade of C-
Studies the problems of "operations" in all types of enterprises in both the public and private sectors. Emphasis is placed on the application of various decision science methodologies to problem situations.

MAN 4505 Healthcare Operations Management (3) BA QMB
PR: QMB 2100, with a grade of C or better
This course provides an overview of methodologies and approaches used in the healthcare operations, including performance improvement tools, project management and scheduling.

MAN 4500 International Management (3) BA QMB
PR: MAN 3025, with a grade of C
Examines the effects of international cultural differences on business practices within and outside the United States and provides methods to build synergies and establish/enhance competitive advantage via those differences.

MAN 4631 Global Perspectives and Management Choices (3) BA QMB

MAN 4702 Disaster Recovery and Business Continuity Planning (3) AS LIS
When organizations are interrupted by disasters, accidents, or natural events, a loss of money, data, and/or productivity occurs. The extent to which the loss affects the organization's health depends on its ability to deal with these disruptions.

MAN 4737 Integrated Management Applications (3) BA QMB
PR: MAN 3240, MAN 3301, MAN 4282
This capstone course integrates the major topics of management. Students will acquire a broad view of organizations, learning to analyze organizational strengths and weaknesses, and to recommend appropriate actions for improvement.

MAN 4802 Entrepreneurship and Small Business Management (3) BA MKT
PR: ACG 2021, ACG 2071, MAR 3023
Study of the factors involved in starting and managing a small- to medium-sized business. Emphasis on conduct of pre-business feasibility study, start-up of business, successful management of the firm, and options for succession or termination.

MAN 4804 Small Business Management Counseling (3) BA MKT
PR: MAN 4802
Field application in small business settings by (a) analyzing an on-going small business and developing recommendations for making improvements; or (b) conducting a feasibility study for a new enterprise and developing a strategy for implementation if favorable.

MAN 4905 Independent Study (1-3) BA QMB
Specialized independent study determined by the students needs and interests.

MAN 4930 Selected Topics in Management (1-3) BA QMB
Topics to be selected by instructor and department chairperson for pertinent Management issues.

MAN 4931 Independent Research (1-4) BA QMB
Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

MAN 4940 Management Internship (3) BA QMB
This course consists of two components: an academic component focused on professional development skills and an on-site experiential learning experience comprised of at least 120 hours of on-site experience.

MAN 4970 Management Honors Thesis WRIN
This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

MAP 2302 Differential Equations 6AMT (3) AS MTH
PR: MAC 2283 or MAC 2313.
COURSE DESCRIPTIONS

First order linear and nonlinear differential equations, higher order linear equations, applications.

MAP 4202 Optimization (3) AS MTH
PR: MAP 2303 and MAS 3105.
Linear and nonlinear programming, the simplex method, duality and sensitivity, constrained and unconstrained optimization.

MAP 4341 Introduction to Partial Differential Equations (3) AS MTH
PR: MAP 2302 and MAS 3105
Heat, Laplace, and Wave Equations; Initial and Boundary Value Problems; Separation of Variables; Fourier Series; Sturm-Liouville Problems

MAP 5316 Ordinary Differential Equations I (3) AS MTH
PR: MAP 2302 and MAA 4211
Existence and uniqueness theory, properties of solutions, linear systems, stability theory. Sturm-Liouville theory.

MAP 5317 Ordinary Differential Equations II (3) AS MTH
PR: MAP 5316 and MAA 5307
Topics selected from fixed point theory, comparison theory, oscillation theory, Poincare-Bendixson Theory, Lyapunov functions, eigenfunction expansions.

MAP 5345 Applied Partial Differential Equations (3) AS MTH
PR: MAP 5407
Separation of variables, the heat equation, wave equation, Laplace's equation, classification, Green's functions with emphasis on applications.

MAP 5407 Methods of Applied Mathematics (3) AS MTH
PR: MAP 2302

MAR 2931 Selected Topics in Marketing (1-3) BA MKT
Topics to be selected by department chairman.

MAR 3023 Basic Marketing (3) BA MKT
Survey of the marketing of goods and services within the economy. Attention is paid to the impact of marketing on other functional areas of business as well as society.

MAR 3022 Supply Chain Management (3) BA MKT
PR: MAR 3023
Supply Chain Management is the study of the end-to-end coordination of physical, information, and financial flows across companies from raw material inputs to delivery of products and services to customers and end consumers.

MAR 3400 Professional Selling (3) BA MKT
PR: MAR 3023
A study of the stages of the professional selling process, and the role of sales in today's marketing environment. Emphasis on learning adaptive selling techniques and developing effective interpersonal communications skills. Sales careers are examined.

MAR 3613 Marketing Research (3) BA MKT
PR: (QMB 2100 or STA 2023, with a grade of C-) and MAR 3023, with a grade of C
A study of research methods and techniques applicable to problem solving in marketing. Attention is also given to defining information needs, determining the value of information, interpreting and reporting information for use in marketing decision making.

MAR 3823 Marketing Management (3) BA MKT
PR: MAR 3023.
An applications oriented study of the marketing function at an intermediate level. Emphasis upon techniques for analysis and problem-solving. Builds upon the principles and concepts learned in MAR 3023, and provides a strong foundation for the remaining courses in the marketing curriculum.

MAR 4156 International Marketing (3) BA MKT
PR: MAR 3023.
A study of procedures and problems associated with establishing marketing operations in foreign countries. Includes the institutions, principles and methods involved in the solution of these business problems as well as the effects of national differences on business practices and buyer behavior.

MAR 4213 Logistics and Physical Distribution Management (3) BA MKT
PR: MAR 3023.
A study of logistics in the marketing of goods and services. Includes a description and analysis of the logistics environment as well as components of the physical distribution system with emphasis on information flows and the application of quantitative techniques used in establishing and controlling customer service levels.

MAR 4231 Retailing Management (3) BA MKT
PR: MAR 3023.
A comprehensive study of the retailing structure, institutions, and environment. Includes pertinent management theories and practices in analyzing, organizing, planning and controlling retail operations, both large and small.

MAR 4333 Promotion Management (3) BA MKT
PR: MAR 3023
A study of the role of promotion in the marketing program of the firm, including the promotional tools available to the marketing manager and the various types of decisions made in the promotional area. Decision making process in development of a promotional program is emphasized.

MAR 4403 Sales Management (3) BA MKT
PR: MAR 3023
A study of sales management and strategy as a subset of marketing management. Emphasis is placed on developing the problem-solving and
**COURSE DESCRIPTIONS**

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**MAR 4453 Business to Business Marketing (3) BMKT**

PR: MAR 3023

A study of the marketing of goods and services to the industrial and institutional sectors. Includes characteristics of the markets and channels of distribution, sales, management, research and promotional practices, marketing policies and strategies.

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**MAR 4503 Buyer Behavior (3) BMKT**

PR: MAR 3023

A study of the basic concepts of buyer behavior, including pre- and post-purchase attitudes and behavior patterns, information processing relating to the functional areas of marketing and the buyer's decision-making process. Managerial applications to marketing are emphasized.

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**MAR 4824 Marketing Management Problems (3) BMKT**

PR: MAR 3613 and MAR 3823, with a grade of C-

The integration of marketing knowledge applied to decision roles in managing the total marketing effort of firms, and coordination with other major functional areas on specific problems. Restricted to Marketing majors.

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**MAR 4903 Independent Research (1-3) BMKT**

Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

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**MAR 4905 Independent Study (1-3) BMKT**

Specialized independent study determined by the students' needs and interests.

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**MAR 4933 Selected Topics in Marketing (1-3) BMKT**

Topics to be selected by instructor and department chairperson.

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**MAR 4940 Marketing Internship/Practicum (3) BMKT**

This course consists of two components: an academic component focused on professional development skills and an on-site experiential learning experience comprised of at least 120 hours of on-site experience.

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**MAR 4970 Marketing Honors Thesis WRIN 6ACT (3) BMKT**

This course is the climax of an undergraduate experience in the College of Business. Thesis development supports critical investigation to develop explanations or solutions to academically interesting business problems or opportunities.

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**MAS 3105 Linear Algebra 6AMT (3) BMTH**

CPR: MGF 3301 and either MAC 2283 or MAC 2313.

Linear systems, matrix algebra, vector spaces, linear independence, inner product spaces, Gram-Schmidt algorithm, linear transformations and matrix representations, determinants, eigenvalues, diagonalization, quadratic forms.

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**MAS 3108 Algebra Connections (3) BMTH**

PR: MAC 2233 or MAC 2241 or MAC 2281 or MAC 2311

This course will provide prospective teachers with experiences that will help them develop the specialized content knowledge needed to support the teaching of mathematics in middle level education.

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**MAS 3156 Vector Calculus 6AMT (3) BMTH**

PR: MAC 2313 or MAC 2283

Implicit function and inverse function theorems, parameterized surfaces, submanifolds on Euclidean space, exterior calculus of differential forms, differentiation of vector fields, line and surface integrals, Stokes' Theorem, elementary continuous groups.

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**MAS 3205 Number Concepts Connections (3) BMTH**

PR: MAC 2233 or MAC 2241 or MAC 2281 or MAC 2311

This course will provide prospective teachers with experiences in number theory that will help them develop the specialized content knowledge needed to support the teaching of mathematics in middle level education.

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**MAS 4214 Elementary Number Theory 6AMT (3) BMTH**

PR: MAC 2312.

Divisibility, prime numbers, Fundamental Theorem of Arithmetic, Diophantine equations, the algebra of congruencies, number functions and other selected topics.

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**MAS 4301 Elementary Abstract Algebra 6AMT (3) BMTH**

PR: MAS 3105.

An introduction to the basic algebraic structures; groups, rings, integral domains, and fields; homeomorphisms and isomorphisms.

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**MAS 4302 Elementary Abstract Algebra II (3) BMTH**

PR: MAS 4301

This course is a continuation of Elementary Abstract Algebra, where advanced topics in abstract algebra, including ring theory and field theory: introduction to Galois theory are taught.

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**MAS 5145 Advanced Linear Algebra (3) BMTH**

CPR: MAS 5311.

Finite-dimensional vector spaces over arbitrary fields, dual spaces, canonical forms for linear transformations, inner product spaces, orthogonal, unitary, and self-adjoint operators and quadratic forms.

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**MAS 5215 Number Theory (3) BMTH**

PR: MAS 3105 and MAS 4301

Fundamental theorem of arithmetic, modular arithmetic, Chinese remainder theorem, Mersenne primes, perfect numbers, Euler-Fermat theorem, pseudo primes, primitive roots, law of quadratic reciprocity, factorization and primality testing algorithms.
COURSE DESCRIPTIONS

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MAS 5311 Algebra I (3) AS MTH
PR: MAS 3105 and MAS 4301
Group theory: Sylow theorems; classification of groups of small order. Ring theory: ideals, quotient rings, polynomial rings, Euclidean domains, principal ideal domains and unique factorization.

MAS 5312 Algebra II (3) AS MTH
PR: MAS 5311
Continuation of MAS 5311. Finitely generated modules over a principal ideal domain, basic field theory, finite fields, Galois theory.

MAT 1033 Intermediate Algebra (3) ED TAL
PR: MAT 0024 with a grade of "C" or better or appropriate score on the Scholastic Aptitude Test, Mathematics (SATM)
This course provides students with an opportunity to develop algebraic knowledge needed for further study in several fields such as engineering, business, science, computer technology, and mathematics.

MAT 1033L Intermediate Algebra Laboratory (1) ED TAL
PR: MAT 0024 with a grade of "C" or better or appropriate score on the Scholastic Aptitude Test, Mathematics (SATM)
CR: MAT 1033.
This course provides students with an opportunity to develop algebraic knowledge needed for further study in several fields such as engineering, business, science, computer technology, and mathematics.

MAT 4906 Independent Study 6AMT (1-4) AS MTH
Specialized independent study determined by the student's needs and interests. The written contract required by the College of Arts and Sciences specifies the regulations governing independent study.

MAT 4930 Selected Topics in Mathematics 6AMT (1-3) AS MTH
The course content will depend on the interest of faculty members and student demand.

MAT 4937 Mathematics Majors Seminar 6AMT (1)
PR: MAS 4301.

MAT 4970 Mathematics Senior Thesis 6AMT (3) AS MTH
Course restricted to mathematics majors.

MAT 5932 Selected Topics (1-4) AS MTH
Each course covers a single topic outside the usual curriculum.

MCB 2000 Microbiology for Nursing and other Healthcare Professionals (3) NR NUR
Basics of microbiology for health professionals. Focus on disease states and the role of bacteria, viruses, fungi, rickettsiae and other pathogenic organisms.

MCB 2000L Microbiology Lab for Nursing and other Healthcare Professionals (1) NR NUR
COURSE DESCRIPTIONS

This course focuses on advanced principles of industrial microbiology/biotechnology. It will expose student to the many applications of industrial microbiology in daily life and through this exposure visualize future entrepreneurial opportunities.

**MCB 4320 Molecular Microbiology (3) AS BCM**
**PR:** MCB 3020 with a minimum grade of C-, MCB 3020L with a minimum grade of C-, PCB 3023 with a minimum grade of C-, PCB 3063 with a minimum grade of C-
Lecture based course building on principles from gen. microbiology to explore advanced topics in molecular microbiology. Emphasis is on: molecular genetics of bacteria and bacteriophages and genetic regulation of responses to the natural environment.

**MCB 4404 Microbial Physiology and Genetics (3) AS BIN**
**PR:** MCB 3020, CHM 2210, PHY 2053
Physiological, metabolic, and genetic phenomena pertinent to understanding the growth, development, ecology, regulation, and reproduction of microorganisms. Emphasizes the interdependence of physiological and genetic approaches. Lecture only.

**MCB 4404L Microbial Physiology and Genetics Laboratory (1) AS BIN**
**CPR:** MCB 4404
Laboratory portion of Microbial Physiology and Genetics relating to biochemical characteristics and metabolic capabilities of bacteria. Laboratory only.

**MCB 4503 Virology (3) AS BCM**
**PR:** MCB 3020, MCB 3020L
The biology of viruses associated with plants, animals, and bacteria will be considered; the nature of viruses, mechanisms of viral pathogenicities, and interactions with host cells.

**MCB 4905 Microbiology Undergraduate Research (1-4) AS BCM**
**PR:** CHM 2210 & MAC 1105 or higher-level MAC course or STA 2023 and CI. CP: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3714 & CHM 2211.
S/U only. Junior standing and 3.0 GPA required. Individual investigation with faculty supervision. Written contract by Department is necessary prior to registration.

**MCB 4933 Selected Topics in Microbiology (1-3) AS BCM**
This course covers various topics in microbiology. The content varies depending on student demand and instructor interest.

**MCB 4934 Seminar in Microbiology (1) AS BCM**

**MCB 5206 Public Health and Pathogenic Microbiology (3) AS BCM**
**PR:** MCB 3020
A comprehensive survey of pathogenic microbes responsible for disease in man and other animals and the impact of these infectious agents on the public health. These pathogens will be studied with respect to their morphology, cultivation, mechanisms of pathogenicity, laboratory diagnosis, and epidemiology.

**MCB 5208 Cellular Microbiology (3) AS BCM**
**PR:** PCB 3023; MCB 3033
Cellular Microbiology is a lecture-based and literature-based course on the interactions between mammalian cells and microbial pathogens and/or their toxins, with a special emphasis on bacteria.

**MCB 5655 Applied and Environmental Microbiology (3) AS BCM**
**PR:** MCB 3020
A Study of the applications of microbiology to the food/beverage industry, agriculture, public health and bioremediation. This course is a microbiology elective and has a mandatory field trip.

**MCB 5815 Medical Mycology (3) AS BCM**
**PR:** MCB 3020
A modern biological survey of the medically important fungi (yeasts and molds) important to microbiologists and environmental scientists.

**MET 2010C Weather Studies (4) AS SGS**
Weather Studies covers the structure, composition, and physical basis of the atmosphere. Topics include atmospheric composition and structure, energy and moisture flows, observations, cloud and precipitation development, circulations and weather systems. This course includes several integrated lab investigations.

**MET 4002C Climatology (4) AS SGS**
**PR:** GEO 2200
An introductory survey of climatology. A qualitative study of the dynamics and general circulation of the atmosphere. Surface and upper level atmosphere linkages in the mid latitudes will be examined. Discussion of the regional climatic patterns and anomalies throughout the world. This course includes several integrated lab investigations.

**MET 4012C Meteorology (4) AS SGS**
**PR:** GEO 2200
The earth's atmosphere and its processes; weather forecasting and analysis; instrumentation. Lecture/lab.

**MET 4106C Climate Studies (4) AS SGS**
**PR:** GEO 2200 or MET 4012C or MET 2010
Information will be provided on the climate system, the scientific principles that govern climate, its variability and change with implications for society and risk management strategies aimed at countering negative impacts of global climate change. This course includes several integrated lab investigations.

**MGF 1106 Finite Mathematics CAMA 6AMT (3) AS MTH**
MHS 3062 Behavioral Healthcare Services for Older Adults (3) BC MHL

This course provides an overview of behavioral health disorders, service sectors, service utilization, and evidence-based service delivery models for older adults with behavioral health issues.

MHS 3204 Fundamentals of Applied Behavior Analysis (3) BC CFS

The Fundamentals of Applied Behavior Analysis (ABA) course provides the student with information in the form of lectures, demonstrations, and practical exercises on the basic principles and procedures of the field of ABA.

MHS 3411 Multidisciplinary Behavioral Healthcare Services (3) BC MHL

Working in behavioral healthcare requires the application of specific knowledge and skills. This open enrollment course offers a practical multidisciplinary look at service delivery. Students will examine their career and educational goals in context.

MHS 4002 Behavioral Health Systems Delivery (3) BC MHL

PR: MHS 3411

This course is designed to provide students with an understanding of the significant issues and trends in behavioral health delivery systems in America. Four major areas will be emphasized: 1) history and legislation; 2) systems delivery; 3) programs and policies; 4) selected at-risk populations. This course is not repeatable for credit and is open to non-minors in behavioral healthcare.

MHS 4022 Adult Psychopathology in the Community (3) BC MHL

This course will review the experience of persons with mental illness in public service settings. Justice involvement, co-occurring disorders, funding streams, and evidence based practices will be discussed. Not restricted to majors; not repeatable.

MHS 4023 Recovery Oriented Mental Health Services (3) BC MHL

This course describes the principles and practices of services that promote recovery and rehabilitation for individuals with severe mental illnesses, with special focus on integration of mental health consumers into meaningful community roles.

MHS 4052 Human Relations Skills in Counseling (3) ED EAP

Introduction to the theory of human relations dynamics and development of skills required for effective interpersonal relations. Lecture sessions and experiential training.

MHS 4074 Child Development and Trauma (3) BC MHL

Students will acquire a thorough knowledge of normal development and the impact of trauma from the prenatal period through adolescence, in addition to screening, differential diagnosis and...
COURSE DESCRIPTIONS

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MHS 4425 Field Experience in Behavioral Healthcare CPST (3) BC CFS
PR: MHS 3411, MHS 4002, MHS 4408
This experiential class allows the student to observe and participate with multidisciplinary staff of a provider agency. The student will attend team meetings, observe individual, group, and case management services. Assignments will be made to maximize the student’s time investment in the field. Observations and experiences will be discussed in biweekly class meetings. Students are required to spend 120 hours (an average of 8 hours per week for 15 weeks) in an agency. Advisor approval required two months in advance of semester.

MHS 4434 Behavioral Health and the Family GCPC (3) BC REH
This course covers ways that illness/injury affect the family of a person who is ill or injured; how family relations/behavioral patterns affect healing and return to good health; and how MH professionals serve families struggling with an ailing loved one.

MHS 4452 Co-Occurring Disorders (3) BC MHL
This unrestricted course is designed to introduce the topic of co-occurring disorders, impart their knowledge and understanding, and teach skills needed to apply for and obtain employment in behavioral healthcare. It is not repeatable for credit.

MHS 4453 Applied Psychopharmacology in Drug Abuse and Dependency (3) BC MHL
This survey course will cover a range of topics pertinent to the observation and recognition of drug use and abuse behavior, focusing on knowledge base useful in applied (treatment) settings, and public and non-profit drug-policy institutions.

MHS 4454 Alcohol Drugs and Crime (3) BC MHL
This course will provide an overview of research and clinical techniques related to the assessment, diagnosis and treatment of alcohol/drug use and the intersection with criminal behavior and the criminal justice system.

MHS 4455 Drug Abuse Prevention and Treatment (3) BC MHL
This course will provide students with an orientation to drug abuse in the U.S., and introduce them to the most commonly used prevention and treatment techniques. The impact of important drug legislation will also be discussed.

MHS 4463 Suicide Issues in Behavioral Health (3) BC CFS
Students explore the psychological and social factors contributing to suicide-related behaviors. Lectures, group activities, and guest speakers help students better understand the dynamics of suicide and the processes of assessment and interventions.

MHS 4490 Behavioral Healthcare Issues for Children (3) BC CFS
Students explore children’s mental health field & systems of care for children and their families.
Lectures, group activities, & guest speakers help examine children’s mental health treatment, service delivery, case management, & wraparound processes.

**MHS 4703 Legal, Ethical and Professional Issues in BHC (3) BC MHL**  
Behavioral healthcare professionals are expected to adhere to professional codes and respect legal rights of clients. Course investigates legal and ethical issues that influence the practice and helps students develop skills in ethical decision-making.

**MHS 4723 Professional Seminar in Behavioral Healthcare (3) BC MHL**  
PR: MHS 3411  
This course provides (1) an overview of skills and processes needed to prepare for field work and (2) professional development opportunities related to behavioral healthcare.

**MHS 4731 Writing for Research and Publication in Behavioral and Community Sciences WRIN 6ACT (3) BC MHL**  
This course is a writing intensive exit course that fulfills the Gordon rule requirement. Students will develop a research problem statement, complete a literature review, and learn to prepare manuscripts for publication.

**MHS 4741 Applied Research Methods (3) BC MHL**  
This course provides students with the opportunity to apply knowledge gained in research methods classes to contemporary problems in the behavioral sciences using quantitative and qualitative methods.

**MHS 4905 Independent Study: Guidance and Counseling Education (1-4) ED EAP**  
Specialized independent study determined by the student’s needs and interests.

**MHS 4906 Directed Study (1-4) BC MHL**  
Directed study. Student must have a contract with an instructor.

**MHS 4912 Independent Research in Behavioral Health (1-4) BC MHL**  
PR: 1 course in statistics; 1 course in research methods.  
Students will conduct an independent research project in behavioral health (mental health and/or substance abuse) under the guidance of a faculty mentor. May be repeated for maximum of 8 credits.

**MHS 4931 Selected Topics (1-3) BC MHL**  
The course content will depend on student demand and instructor’s interest. The course may be repeated for different topics up to 9 hours.

**MHS 4943 Practicum Seminar in Applied Behavior (3) BC CFS**  
CPR: MHS 4202 and Intervention Planning in ABA.  
How to find a quality placement in the community in order to become certified as an Assistant Behavior Analyst, navigate the Behavior Analyst Certification Board process, and receive training on current ABA technologies.

**MHS 5020 Foundations of Mental Health Counseling (3) BC REH**  
A skill-building course on the utilization of one’s self in mental health counseling relationships. Includes study of the origin, history, professional functions and current issues in the discipline of mental health counseling.

**MHS 5480 Human Growth and Development (3) BC REH**  
Human development theory as applied in psychotherapy and case management rehabilitation, mental health, and addiction settings.

**MHS 5721 BRIDGE Proseminar I (2) BC MHL**  
This course is designed to provide students with the necessary skills for successfully applying for and transitioning into a graduate training program in the social and behavioral sciences.

**MHS 5722 BRIDGE Pro Seminar II (2) BC MHL**  
Provide students with the skills for successfully transitioning to a graduate program in behavioral and social sciences. It will also provide knowledge that can be applied to the mentor research project being conducted as part of the BRIDGE certificate.

**MHS 5745 Applied Qualitative Research Methods (3) BC MHL**  
This course is designed to provide students with an understanding of applied qualitative research methods and to assist them where appropriate in applying these methods to their mentor research projects being conducted as part of the BRIDGE certification.

**MHS 5746 Applied Quantitative Research Methods (3) BC MHL**  
Reviews quantitative research methods while focusing on the application of such concepts in real research contexts preparing students to understand the nature assumptions processes and ethical application of quantitative methodology.

**MHS 5889 BRIDGE Community Field Experience (2) BC MHL**  
Provide students with the skills for successfully transitioning to a graduate program in behavioral and social sciences. It will also provide knowledge that can be applied to the mentor research project being conducted as part of the BRIDGE certificate.

**MHS 5905 Directed Studies (1-4) ED EAP**  
Independent studies on a selected topic.

**MLS 4038 Introduction to Medical Technology (1-2) AS CHM**  
A hospital clinical course on principles and methods of medical technology, including professional ethics, safety regulations, quality control, phlebotomy, medical terminology, lab.

**MLS 4860 Clinical Urinalysis and Body Fluids (2) AS CHM**  
A hospital clinical course on laboratory methodology and diagnosis using urine and other
flaxes such as semen, spinal, pleural, peritoneal, and joint fluids.

**MLS 4861 Clinical Immunology (2) AS CHM**
A hospital clinical course on the tissues, cells, and molecules of the human immune system, emphasizing the detection of serum antibodies and disease states.

**MLS 4862 Clinical Hematology (6) AS CHM**
A hospital clinical course on cellular components of the blood as related to laboratory diagnosis and disease, including blood coagulation and morphological and biochemical aspects of blood cells.

**MLS 4863 Clinical Microbiology (6) AS CHM**
A hospital clinical course emphasizing pathogens responsible for diseases in man, including morphology, physiology, and laboratory diagnosis of bacteria, fungi, parasites, and viruses.

**MLS 4864 Clinical Chemistry (6) AS CHM**
A hospital clinical course on the analysis of chemical substances found in the body as related to the diagnosis of human disease, including topics such as instrumentation, electrophoresis, therapeutic drug-monitoring assays, tumor markers, and toxicology.

**MLS 4865 Clinical Immunohematology (6) AS CHM**
A hospital clinical course on blood and tissue typing, including blood group systems, transfusion associated diseases, HLA testing, and preparation of blood and blood components for transfusion therapy.

**MLS 4866 Clinical Laboratory Management and Education (1) AS CHM**
A hospital clinical course on concepts of laboratory management, including personnel staffing, reimbursements, quality assurance, and regulatory issues, and clinical education techniques, including writing, lecture presentation, and evaluation.

**MMC 2100 Writing for the Mass Media (3) AS MCM**
PR: grade of "C" in ENC 1101, ENC 1102
An introduction to the basic skills of writing for the mass media with practice in library research, persuasive writing, and informational writing.

**MMC 3140 Web Publishing (3) AS MCM**
PR: JOU 2100, MMC 2100, MMC 3602, VIC 3001.
Course is intended for those with little previous Web design/publishing experience. Course will introduce students to the basic topics, nomenclature, pragmatics, and mechanics involved in Web publishing. Restricted to majors; not repeatable for credit.

**MMC 3602 Mass Communications and Society CASB HHCP (3) AS MCM**
A survey of the history, theory, processes, and philosophy of mass communications and the mass media in the United States, and their relationship to the other major institutions of American society.

**MMC 4200 History and Principles of Communications Law (3) AS MCM**
PR: MMC 2100 and MMC 3602.

**MMC 4203 Communication Ethics (3) AS MCM**
PR: MMC 2100 and MMC 3602
A study of the fundamental principles and philosophies of ethics and their application to the decision-making process in the various professions of mass communications.

**MMC 4208 Media Law and Ethics (3) AS MCM**
A study of the fundamental principles and philosophies of law and ethics and their application to various professions of mass communications.

**MMC 4420 Research Methods in Mass Communications (5) AS MCM**
PR: MMC 2100 and MMC 3602.
An introduction to the theory and practice of quantitative and historical research methods as applicable to the study of media and mass communications. Emphasis on survey research, evaluation of data, and report writing.

**MMC 4900 Directed Reading in Mass Communications (1-3) AS MCM**
Reading and directed study in special topics.

**MMC 4910 Individual Research in Mass Communications (1-3) AS MCM**
The course provides means for a student to do independent study in an area not covered by a numbered course.

**MMC 4936 Selected Topics in Mass Communications Studies (1-3) AS MCM**
PR: MMC 2100, MMC 3602
Courses designed to meet current or specific topics of interest to instructors and students.

**MMC 4945 Internship (1-3) AS MCM**
Students work for an employer within the field of mass communication to practice skills and apply knowledge.

**MIS 1001C Leadership and Personal Development (2) US MIS**
Introduces to personal challenges & competencies critical to effective leadership; teaches personal development life skills relative to leadership, officership, & Army profession; focuses on gaining understanding of ROTC Program & its purpose in Army.

**MIS 1002C Introduction to Tactical Leadership (2) US MIS**
Introduces leadership basics (eg: setting direction, problem-solving, listening, briefs, giving feedback & use of effective writing skills); explores dimensions of leadership values, attributes, skills & actions in context of practical hands-on exercises.

**MIS 2101C Innovative Team Leadership (2) US MIS**
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Explores creative & innovative tactical leadership strategies & styles. Develops knowledge of leadership values & attributes by understanding Army rank, structure, & duties. Broadens knowledge of land navigation & squad tactics.

MSL 2102C Foundations of Tactical Leadership (2) US MIS
Examine challenges of leading tactical teams in complex current operating environment; highlights dimensions of terrain analysis, patrolling & operation orders; develops greater self-awareness, communication & team building skills.

MSL 2900 Army Physical Readiness (1) US MIS
This course will train students in the unique role of Army physical readiness in sustaining military operations. It will also prepare students to plan, prepare, and conduct military fitness training. Repeatable for 8 semesters, but only 4 credit hours will be counted toward the program.

MSL 2901 Basic Leader Training (4) US MIS
A 35 day internship at Fort Knox, Kentucky that incorporates a wide range of military subjects designed to develop/evaluate leadership and officer potential. The course is intentionally stressful and designed to build individual confidence through the accomplishment of tough and demanding training. Students completing the course may qualify for entry into the ROTC Advanced Course.

MSL 3201C Adaptive Team Leadership (3) US MIS
Challenges to study, practice, & evaluate adaptive team leadership skills as demands of the ROTC LDAC are presented. Uses challenging scenarios to develop self-awareness & critical thinking skills. Provides specific feedback on leadership abilities.

MSL 3202C Leadership in Changing Environments (3) US MIS
Challenges to study, practice, & evaluate adaptive leadership skills as demands of ROTC Leader Development Assessment Course are presented. Develops self-awareness & critical thinking skills with challenging scenarios. Provides feedback on leader skills.

MSL 4301C Developing Adaptive Leaders (3) US MIS
Develops ability to plan, & assess complex operations, functioning as member of a staff; provides performance feedback to subordinates; gives opportunities to assess risk, make ethical decisions, & lead fellow cadets; prepares in becoming Army officer.

MSL 4302C Leadership in a Complex World (3) US MIS
Explores dynamics of leadership in complex situations of current military operations in current operating environment; examines differences in courtesies, military law, principles of war & rules of engagement in face of international terror & more.

MSL 4930 Advanced Directed Study and Research (1-3) US MIS
Intensive individual study in a particular aspect of military science that is not covered in regular course offerings. Request for enrollment must be made prior to registration in the form of a written proposal.

MTG 3207 Geometry Connections (3) AS MTH
PR: MTG 5316 or MAC 2242 or MAC 2281 or MAC 2211
This course will provide prospective teachers with experiences in geometry that will help them develop the specialized content knowledge needed to support the teaching of mathematics in middle level education.

MTG 3212 Geometry 6AMT (3) AS MTH
PR: MAC 2311
Emphasis on axiomatics, advanced Euclidean geometry, elements of projective geometry, non-Euclidean geometry.

MTG 4214 Modern Geometry 6AMT (3) AS MTH
PR: MAC 2313 (or MAC 2283), MAP 2302 and MAS 3105
Topics will be selected from modern plane geometry. Mobius geometry, elliptic and hyperbolic geometry.

MTG 4254 Differential Geometry (3) AS MTH
PR: MAC 2313 and MAS 3105
The intrinsic geometry of curves and surfaces will be explored using fundamental concepts and techniques from classical differential geometry.

MTG 4302 Introduction to Topology 6AMT (3) AS MTH
PR: MAC 2313 and MAS 3105.

MTG 5256 Differential Geometry (3) AS MTH
PR: MAA 4211, MAS 3105.
Exterior calculus, differentiable manifolds, integration of differential forms, surfaces in 3-space, covariant derivative, curvature, matrix groups.

MTG 5316 Topology I (3) AS MTH
PR: MAA 4211.

MTG 5317 Topology II (3) AS MTH
PR: MTG 5316.
The fundamental group; elements of homotopy theory and homology theory.

MUC 1211 Freshman Composition and Instrumentation 1 (2) FA MUS
Introduction to Composition is a skill-building course designed for freshman music composition majors. Students will study techniques to ideate, compose, orchestrate, notate and obtain documented performances of their music. (Majors only—not repeatable).

MUC 1212 Freshman Composition and Instrumentation 2 (2) FA MUS

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### COURSE DESCRIPTIONS

**MUC 2221 Sophomore Composition and Instrumentation 1 (2) FA MUS**
PR: MUC 1212.
Sophomore Composition is a two-semester course which requires each student to complete two pieces per semester, two business-oriented projects, lead a discussion based on the writing of a selected composer, and explore major pieces from the literature.

**MUC 2222 Sophomore Composition and Instrumentation 2 (2) FA MUS**
PR: MUC 1212.
Sophomore Composition is a two-semester course which requires each student to complete two pieces per semester, two business-oriented projects, lead a discussion based on the writing of a selected composer, and explore major pieces from the literature.

**MUC 2301 Introduction To Electronic Music CAFA (3) FA MUS**
History and repertory of electronic music; standard sound studio techniques; basic electronics as applied in electronic sound synthesis; mathematics for music, composition and electronic music.

**MUC 3231 Junior Composition and Instrumentation 1 (2) FA MUS**
PR: MUC 2222.
A skill-building course designed for junior music composition majors. Students will compose music, notate and orchestrate it and obtain a performance of 2 large-scale pieces, one for large wind ensemble.

**MUC 3232 Junior Composition and Instrumentation 2 (2) FA MUS**
PR: MUC 3231.
A skill-building course designed for junior music composition majors. Students will compose music, notate and orchestrate it and obtain a performance of it. Students will begin writing for large ensembles, e.g. wind ensemble and choir.

**MUC 3401 Electronic Music-Analog Synthesis I (3) FA MUS**
PR: MUC 2301
Composition for tape medium with analog synthesizers; use of sound recording studio; repertory or analog music synthesis; technical basis of analog systems design and construction.

**MUC 3402 Electronic Music-Analog Synthesis II (3) FA MUS**
PR: MUC 2301
Composition for tape medium with analog synthesizers; use of sound recording studio; repertory or analog music synthesis; technical basis of analog systems design and construction.

**MUC 3411 Electronic Music-Digital Synthesis I (3) FA MUS**
PR: MUC 3401 or MUC 3402
Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.

**MUC 3442 Electronic Music-Digital Synthesis II (3) FA MUS**
PR: MUC 3401 or MUC 3402
Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.

**MUC 4241 Senior Composition and Instrumentation (2) FA MUS**
PR: MUC 3232.
A one-semester course which requires each student to complete two pieces, seven business-oriented projects, lead a discussion based on the writing of a selected composer, and explore major pieces from the literature.

**MUC 4403 Electronic Music-Real-Time Performance I (3) FA MUS**
PR: MUC 3402 and MUC 3442 or equivalent. Composition for analog/digital equipment, performance applications; sound synthesis, interfacing electronics with conventional instruments.

**MUC 4404 Electronic Music-Real-Time Performance II (3) FA MUS**
PR: MUC 3402 and MUC 3442 or equivalent. Composition for analog/digital equipment, performance applications; sound synthesis, interfacing electronics with conventional instruments.

**MUC 4620 Jazz Composition (3) FA MUS**
PR: MUT 3354
Private instruction in original jazz composition. Required of All Jazz Studies Comp. majors, minimum six of hours.

**MUC 4950 Senior Recital/Project/Portfolio Presentation (2) FA MUS**
PR: MUC 4241.
This is course is a "capstone" -type of experience requiring 8th-semester senior to produce and promote 2 concerts: one of his or her own music on campus) and one with other seniors to be held off campus. A portfolio/database presentation is also required.

**MUE 1111 Keyboard Skills for Music Educators I (2) FA MUS**
This course is designed to help students develop musicianship skills through the use of a music
keyboard and to develop skills for using the keyboard in teaching and learning situations.

MUE 1121 Keyboard Skills for Music Educators II (2) FA MUS
PR: MUE 1111
This course is designed to help students continue development of musicianship skills through the use of a music keyboard and to continue development of skills for using the keyboard in teaching and learning situations.

MUE 2090 Foundations of Music Education GCPC (3) FA MUS
The course is designed to investigate music education practices in the schools. Through the experience and information offered in this course a student will be able to determine his/her commitment to professional music education.

MUE 3414 Creative Performance Chamber Ensemble (1) FA MUS
PR: MUE 2090.
CR: MUE 3424
This course will provide students opportunities to apply concepts of informal learning, gained through various course work, in a non-traditional, student directed, music education performance setting. The course is repeatable for a total of four credits.

MUE 3415 Creative Performance Chamber Ensemble II (1) FA MUS
PR: MUE 3414
CR: MUE 3425
This course will provide students opportunities to apply concepts of informal learning, gained through various course work, in a non-traditional, student directed, music education performance setting.

MUE 3421 Choral Techniques (1) FA MUS
A study of choral materials in a laboratory setting appropriate to elementary and secondary school music programs. Course content will change each semester.

MUE 3422 Wind Techniques (1) FA MUS
PR: MUG 3104
A two-semester sequence intended to equip music education students with basic performance, pedagogical, and rehearsal techniques, applicable to brass and woodwind instruments and ensembles.

MUE 3423 String Techniques (1) FA MUS
A study of orchestra materials, in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each semester.

MUE 3424 Progressive Music Education Methods I (3) FA MUS
PR: MUE 2090
CR: MUE 3414
This course will provide students a grounding in methods for music education settings outside the traditional general, band, choir and string programs.

MUE 3425 Progressive Music Education Methods II (3) FA MUS
PR: MUE 3424.
CR: MUE 3415
This course will provide students a further grounding in methods for music education settings outside the traditional general, band, choir and string programs.

MUE 3475 Percussion Techniques (1) FA MUS
Introduction to percussion pedagogy for the music educator.

MUE 3691 Introduction to Technology for Music Educators (3) FA MUS
This course is designed as an introduction to computer technology and its role in teaching and learning processes. Topics include educational software and applications, ethical and social issues and models for integrating technology into instruction.

MUE 3930 Music Education Forum (1) FA MUS
Discuss MusEd professional organizations (MENC, CMENC, ISME, etc.). Students join CMENC and attend the FMEA conference. Add'l topics: classroom management, school safety, professional ethics, education law, and MusEd for special students. Required for MusEd majors 4 semesters @ 1 credit hour per term.

MUE 4311 General Music Methods GCPC (3) FA MUS
PR: MUE 2090
This course will consist of theoretical and practical information in teaching General Music PreK-12. It will include approaches and methodologies from the USA and internationally.

MUE 4331 Choral Methods (3) FA MUS
Development and implementation of methods techniques for teaching secondary school choral music.

MUE 4332 Instrumental Methods (3) FA MUS
PR: MUE 2450, MUE 2460, MVP 1211.
Development and implementation of methods techniques for teaching secondary school instrumental music.

MUE 4480 Special Ensemble Methods (2) FA MUS
This course is restricted to majors and is repeatable for up to 6 credits.

MUE 4936 Senior Seminar in Music Education WRIN 6ACT (3) FA MUS
CR: MUE 4940
Synthesis of teacher candidate's courses in complete college program. Required concurrently with internship.

MUE 4940 Internship: Music Education CPST (6-10) FA MUS
CR: MUE 4936
One full semester of internship in public or private elementary and secondary schools. Restricted to majors. May not be repeated for credit.

MUE 4941 Global Awareness Music Education Internship (3-6) FA MUS
PR: MUE 3424 and MUE 3425
COURSE DESCRIPTIONS

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The Global Awareness Music Education
Internship will be a four-week intensive summer experience where music education students are assigned to work with one Musical Futures teacher in a k-12 school setting.

MUG 3104 Basic Conducting (2) FA MUS
The study and practical application of basic conducting techniques. Development of skills related to the conducting of musical scores.

MUG 3108 Advanced Conducting (2) FA MUS
PR: MUG 3104. Provides USF music education majors with a competency-based lab experience in conducting while placing an emphasis on developing advanced skills necessary to lead an ensemble in rehearsal and performance. Restricted to Music Education Majors.

MUG 4302 Instrumental Conducting (2) FA MUS
PR: MUG 3404. A study of those techniques of conducting unique to instrumental music ensembles: baton technique, score reading, terminology, rehearsal management.

MUH 2020 The History of Blues and Rock CAFA HHCP (3) FA MUS
A study of the history of rock music: its roots, regions and countries of origin, evolution, styles, influences, social/cultural context. Blues and rock are particularly American forms of music, but they reflect ancient practice as well.

MUH 2051 Folk and Traditional Music of World Cultures CAFA (3) FA MUS
A comparative survey of the stylistic traits and functions of folk and traditional music, both sacred and secular, of diverse Western and non-Western cultures. For non-majors and music education majors; may be taken by applied music majors.

MUH 2632 Music In The United States (3) FA MUS
Designed for majors and non-majors, this course will use live performances, videotapes, and recordings to illustrate music as practiced in America from Colonial to present times. Included in the course will be study of the contributions of various ethnic/minority groups, and discussions of the relevant social issues connected with these contributions.

MUH 3016 Survey of Jazz CAFA (3) FA MUS
This course introduces undergraduate students to Jazz music. Students will study historical, cultural and social issues associated with the evolution of jazz music and learn to hear and discern specific musical traits found in jazz music.

MUH 3300 Music History/ Medieval and Renaissance (2) FA MUS
Required of music majors; a study of the historical development of musical styles of the Medieval and Renaissance periods and of the music of those periods.

MUH 3301 Music History/Baroque and Classic (3) FA MUS
PR: MUL 2111. A study of the historical development of musical styles of the Baroque and Classic periods and of the music of those periods.

MUH 3302 Music History/Romantic and 20th Century (3) FA MUS
PR: MUL 2111. A study of the historical development of musical styles of the Romantic and Twentieth Century eras and of the music of those periods.

MUH 4058 Intercultural Music in the Twentieth Century (3) FA MUS
PR: MUH 2051 or MUL 2111. An in-depth investigation of composers born after c. 1880, from all parts of the world, who have attempted to integrate elements from two or more cultures into their compositions.

MUH 4372 Representing the United States in Music WRIN 6ACT (3) FA MUS
This course explores works by twentieth-century composers that define aspects of American life. We will examine a diverse selection of pieces and genres ranging from traditional European art music forms to jazz, rock, and hip hop.

MUH 4801 History of Jazz (3) FA MUS
PR: MUT 1112. An in-depth study of the historical development of Jazz, including the representative musical literature and sociological implications.

MUL 2111 Introduction To Music Literature 6ACT (3) FA MUS
PR: MUT 1112. A survey of representative music exemplars of the past and present with emphasis on the study of styles and form. Required for music majors.

MUL 3001 Issues In Music (3) FA MUS
Lectures and live performances by artist faculty of significant works from the literature for the piano; analysis and illustration in performance of the abstract and aesthetic elements in music which vitally concern the artist-performer.

MUL 3011 Western Art Music in Your Life CAFA (3) FA MUS
PR: MUT 1112. A study in the art of music and its materials, designed to develop an understanding of basic principles of music and a technique for listening to music.

MUL 3600 Vocal Literature - Undergraduate (2) FA MUS
PR: Four terms of studio grade. Open to all USF undergraduate vocal performance majors that have completed four terms of vocal study with a passing grade. Other students may petition to enroll with the approval of the instructor. Provides a survey of standard vocal literature.

MUN 1100 University Pep Band and Winter Guard (1-3) FA MUS
Auditions for Pep Band are required for students who did not march in the Fall. Auditions for Winter Guard are required for all members.

MUN 1110 University Marching Band (1-3) FA MUS
**COURSE DESCRIPTIONS**

This course provides performance experiences with the Marching Band. The course is open to any major area.

**MUN 1120 Concert Band (1) FA MUS**
The concert band provides music majors and non-major enthusiasts the opportunity to rehearse and perform quality wind band literature under the direction of multiple conductors. The course can be taken multiple years for one credit each time.

**MUN 1439 Tuba-Euphonium Ensemble (1) FA MUS**
Course is a vital/required performance outlet for all USF tuba/euphonium majors. Repertoire & class size provide for personalized instruction/dynamic musical growth. Non-majors may enroll. Course is repeatable for credit- total 8 credits

**MUN 3113 Marching Ensemble for Experienced Members (0) FA MUS**
PR: 2 semesters of MUN 1110
Participation in the USF Marching Band. Performances at all home football games, select away football games and various exhibitions and community performances throughout the semester.

**MUN 3133 Symphonic Band (1) FA MUS**
The Symphonic Band fosters the highest performance standards of wind and percussion literature. Although made up primarily of music majors, the course is open to all university students by comprehensive auditions. It is repeatable for up to 8 credits.

**MUN 3143 Wind Ensemble (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

**MUN 3213 University Orchestra (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

**MUN 3313 University Singers (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

**MUN 3323 Bel Canto Women’s Choir (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media (singing); study and performance of treble-voice music and treble-voice music in combination with, string, woodwind, brass, or percussion instruments.

**MUN 3333 Singing Stampede (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media (singing); study and performance of male-chorus music and male-chorus music in combination with string, woodwind, brass, or percussion instruments.

**MUN 3343 Chamber Singers (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3383 University-Community Chorus (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

**MUN 3411 String Quartet (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3424 Woodwind Quintet (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3427 Flute Choir (1) FA MUS**
Flute Choir will rehearse and perform new and standard repertoire for flute ensemble. Students will learn to perform on all members of the flute family including piccolo, C flute, alto and bass flute.

**MUN 3431 Brass Quintet (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3433 Brass Choir (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3443 Percussion Ensemble (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3444 Marimba Ensemble (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

**MUN 3453 Piano Ensemble (1) FA MUS**
Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

**MUN 3474 Collegium Musicum (1) FA MUS**

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Open to all university students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

MUN 3713 Jazz Ensemble (1) FA MUS
Open to all university students with the necessary proficiency in their performance media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments.

MUN 3714 Jazz Chamber Ensemble (1) FA MUS
Open to all university students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano.

MUT 2251 Aural Theory I (1) FA MUS
Course designed to begin training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing.

MUT 2252 Aural Theory II (1) FA MUS
PR: MUT 2251
Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing.

MUT 2253 Aural Theory III (1) FA MUS
PR: MUT 2252
Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing.

MUT 2254 Aural Theory IV (1) FA MUS
PR: MUT 2253
Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing.

MUT 2255 Aural Theory V (1) FA MUS
PR: MUT 2254
A study of jazz improvisational techniques and related jazz theory.

MUT 2256 Aural Theory VI (1) FA MUS
PR: MUT 2255
A study of jazz improvisational techniques and related jazz theory.
### COURSE DESCRIPTIONS

**MUT 3353 Jazz Composition and Arranging I (3)**
**FA MUS**
Course designed to develop arranging and/or compositional skills in the jazz idiom through the study of jazz orchestration, harmonic, and melodic practices.

**MUT 3354 Jazz Composition And Arranging II (3)**
**FA MUS**
Course designed to develop arranging and/or compositional skills in the jazz idiom through the study of jazz orchestration, harmonic and melodic practices.

**MUT 3663 Advanced Jazz Improvisation I (2)**
**FA MUS**
A studio course study of the improvised solos of the major innovators in jazz. Oriented toward the continuing development of students' soloing ability. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

**MUT 3664 Advanced Jazz Improvisation II (2)**
**FA MUS**
A continuation of Jazz Styles and Analysis I with the emphasis on contemporary jazz artists. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

**MUT 4310 Orchestration I (2)**
**FA MUS**
Intensive study and practice in scoring music for various combinations of instruments, including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments.

**MUT 4311 Orchestration II (2)**
**FA MUS**
Intensive study and practice in scoring music for various combinations of instruments, including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments.

**MUT 4421 Eighteenth Century Practice (3)**
**FA MUS**
An intensive study of the contrapuntal practice of the 18th century; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

**MUT 4571 Twentieth Century Practice (3)**
**FA MUS**
A study of 20th century theoretical concepts; development of skills in perceiving and writing music in contemporary styles through the use of aural and visual analysis.

**MUT 4611 Form and Analysis (3)**
**FA MUS**
This course teaches students to think critically, speak, and write fluently about music, music analysis, and how these processes relate to the work done in rehearsals or studios via various inquiry-based learning strategies.

**MVB 1211 Applied Trumpet (1)**
**FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVB 1212 Applied French Horn (1)**
**FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVB 1213 Applied Trombone (1)**
**FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVB 1214 Applied Euphonium (1)**
**FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVB 1215 Applied Tuba (1)**
**FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVB 1311 Trumpet Principal (2)**
**FA MUS**
Private and class instruction.

**MVB 1312 French Horn Principal (2)**
**FA MUS**
Private and class instruction.

**MVB 1313 Trombone Principal (2)**
**FA MUS**
Private and class instruction.

**MVB 1314 Euphonium Principal (2)**
**FA MUS**
Private and class instruction.

**MVB 1315 Tuba Principal (2)**
**FA MUS**
Private and class instruction.

**MVB 1411 Trumpet Major (3)**
**FA MUS**
Private and class instruction.

**MVB 1412 French Horn Major (3)**
**FA MUS**
Private and class instruction.

**MVB 1413 Trombone Major (3)**
**FA MUS**
Private and class instruction.

**MVB 1414 Euphonium Major (3)**
**FA MUS**
Private and class instruction.

**MVB 1415 Tuba Major (3)**
**FA MUS**
Private and class instruction.

**MVB 2321 Trumpet Principal (2)**
**FA MUS**
### Course Descriptions

- **MVB 2322 French Horn Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 2323 Trombone Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 2324 Euphonium Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 2325 Tuba Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 2421 Trumpet Major (3) FA MUS**
  - Private and class instruction.

- **MVB 2422 French Horn Major (3) FA MUS**
  - Private and class instruction.

- **MVB 2423 Trombone Major (3) FA MUS**
  - Private and class instruction.

- **MVB 2424 Euphonium Major (3) FA MUS**
  - Private and class instruction.

- **MVB 2425 Tuba Major (3) FA MUS**
  - Private and class instruction.

- **MVB 3331 Trumpet Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 3332 French Horn Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 3333 Trombone Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 3334 Euphonium Principal (2) FA MUS**
  - Private and class instruction.

- **MVB 3335 Tuba Principal (2) FA MUS**
  - Private and class instruction.

- **MVJ 1210 Applied Jazz Piano (1) FA MUS**
  - One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

- **MVJ 1213 Applied Jazz Guitar (1) FA MUS**
  - One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

- **MVJ 1214 Applied Jazz Bass (1) FA MUS**
  - One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

- **MVJ 1219 Jazz Percussion (1) FA MUS**
  - One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

- **MVJ 1310 Applied Jazz Piano Principal (2) FA MUS**
  - Private and class instruction.

- **MVJ 1313 Jazz Guitar Principal (2) FA MUS**
  - Private and class instruction.

- **MVJ 1314 Jazz Bass Principal (2) FA MUS**
  - Private and class instruction.

- **MVJ 1319 Applied Jazz Percussion Principal (2) FA MUS**
  - Private and class instruction.

- **MVJ 2110 Jazz Keyboard Skills (2) FA MUS**
  - PR: MUT 2641.
For jazz studies majors (non pianists). Students will learn jazz chord voicings, comping rhythms, and develop appropriate piano technique to be able perform simple melodies and bass lines.

**MVJ 2320 Applied Jazz Piano Principal (2) FA MUS**
Private and class instruction.

**MVJ 2323 Jazz Guitar Principal (2) FA MUS**
Private and class instruction.

**MVJ 2324 Jazz Bass Principal (2) FA MUS**
Private and class instruction.

**MVJ 2329 Applied Jazz Percussion Principal (2) FA MUS**
Private and class instruction.

**MVJ 2420 Applied Jazz Piano Major (3) FA MUS**
Private and class instruction.

**MVJ 2423 Jazz Guitar Major (3) FA MUS**
Private and class instruction.

**MVJ 2424 Jazz Bass Major (3) FA MUS**
Private and class instruction.

**MVJ 2429 Applied Jazz Percussion Major (3) FA MUS**
Private and class instruction.

**MVJ 3330 Applied Jazz Piano Principal (2) FA MUS**
Private and class instruction.

**MVJ 3333 Jazz Guitar Principal (2) FA MUS**
Private and class instruction.

**MVJ 3334 Jazz Bass Principal (2) FA MUS**
Private and class instruction.

**MVJ 3339 Applied Jazz Percussion Principal (2) FA MUS**
Private and class instruction.

**MVJ 3430 Applied Jazz Piano Major (3) FA MUS**
Private and class instruction.

**MVJ 3433 Jazz Guitar Major (3) FA MUS**
Private and class instruction.

**MVJ 3434 Jazz Bass Major (3) FA MUS**
Private and class instruction.

**MVJ 4340 Jazz Piano Principal (2) FA MUS**
Private and class instruction.

**MVJ 4343 Jazz Guitar Principal (2) FA MUS**
Private and class instruction.

**MVJ 4344 Jazz Bass Principal (2) FA MUS**
Private and class instruction.

**MVJ 4439 Jazz Percussion Principal (2) FA MUS**
Private and class instruction.

**MVJ 4440 Jazz Piano Major (3) FA MUS**
Private and class instruction.

**MVJ 4443 Jazz Guitar Major (3) FA MUS**
Private and class instruction.

**MVJ 4444 Jazz Bass Major (3) FA MUS**
Private and class instruction.

**MVJ 4449 Jazz Percussion Major (3) FA MUS**
Private and class instruction.

**MVJ 4950 Applied Jazz Performance (3) FA MUS**
PR: MUT 2642
Necessary competency at junior level determined by faculty jury examination. Private and class instruction.

**MVJ 5250 Applied Jazz Piano Secondary (2) FA MUS**
Private and class instruction.

**MVJ 5253 Applied Jazz Guitar Secondary (2) FA MUS**
Private and class instruction.

**MVJ 5254 Applied Jazz Bass Secondary (2) FA MUS**
Private and class instruction.

**MVJ 5259 Applied Jazz Percussion Secondary (2) FA MUS**
Private and class instruction.

**MVK 1111 Keyboard Skills I (2) FA MUS**
Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVK 1125 Keyboard Skills II (2) FA MUS**
PR: MVK 1111
Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVK 1211 Applied Piano (1) FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVK 1311 Piano Principal (2) FA MUS**
Private and class instruction.

**MVK 1411 Piano Major (3) FA MUS**
Private and class instruction.

**MVK 1811 Beginning Piano I (2) FA MUS**
Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVK 2121 Keyboard Skills III (2) FA MUS**
Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVK 2122 Keyboard Skills IV (2) FA MUS**
## COURSE DESCRIPTIONS

### UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

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Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVP 2321 Piano Principal (2) FA MUS**
Private and class instruction.

**MVP 2421 Piano Major (3) FA MUS**
Private and class instruction.

**MVP 2813 Intermediate Piano (2) FA MUS**
Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

**MVP 3331 Piano Principal (2) FA MUS**
Private and class instruction.

**MVP 3431 Piano Major (3) FA MUS**
Private and class instruction.

**MVP 4441 Piano Major (3) FA MUS**
Private and class instruction.

**MVP 4341 Piano Principal (2) FA MUS**
Private and class instruction.

**MVP 3431 Piano Major (3) FA MUS**
Private and class instruction.

**MVP 3331 Piano Principal (2) FA MUS**
Private and class instruction.

**MVP 2421 Piano Major (3) FA MUS**
Private and class instruction.

**MVP 2321 Piano Principal (2) FA MUS**
Private and class instruction.

**MVP 1411 Violin Major (3) FA MUS**
Private and class instruction.

**MVP 1311 Violin Principal (2) FA MUS**
Private and class instruction.

**MVP 1312 Viola Major (3) FA MUS**
Private and class instruction.

**MVP 1313 Cello Major (3) FA MUS**
Private and class instruction.

**MVP 1314 Double Bass Major (3) FA MUS**
Private and class instruction.

**MVP 1211 Applied Percussion (1) FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVP 1212 Applied Viola (1) FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVP 1213 Applied Violoncello (1) FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVP 1214 Applied Double Bass (1) FA MUS**
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.

**MVP 1311 Violin Principal (2) FA MUS**
Private and class instruction.

**MVP 1312 Viola Principal (2) FA MUS**
Private and class instruction.

**MVP 1313 Violoncello Principal (2) FA MUS**
Private and class instruction.

**MVP 1411 Violin Major (3) FA MUS**
Private and class instruction.

**MVP 1412 Viola Major (3) FA MUS**
Private and class instruction.

**MVP 1413 Cello Major (3) FA MUS**
Private and class instruction.

**MVP 1414 Double Bass Major (3) FA MUS**
Private and class instruction.
MVS 2423 Cello Major (3) FA MUS
Private and class instruction.
MVS 2424 Double Bass Major (3) FA MUS
Private and class instruction.
MVS 3331 Violin Principal (2) FA MUS
Private and class instruction.
MVS 3332 Viola Principal (2) FA MUS
Private and class instruction.
MVS 3333 Violoncello Principal (2) FA MUS
Private and class instruction.
MVS 3431 Violin Major (3) FA MUS
Private and class instruction.
MVS 3432 Viola Major (3) FA MUS
Private and class instruction.
MVS 3433 Cello Major (3) FA MUS
Private and class instruction.
MVS 3434 Double Bass Major (3) FA MUS
Private and class instruction.
MVS 4341 Violin Principal (2) FA MUS
Private and class instruction.
MVS 4342 Viola Major (3) FA MUS
Private and class instruction.
MVS 4343 Violoncello Principal (2) FA MUS
Private and class instruction.
MVS 4344 Double Bass Principal (2) FA MUS
Private and class instruction.
MVS 4441 Violin Major (3) FA MUS
Private and class instruction.
MVS 4442 Viola Major (3) FA MUS
Private and class instruction.
MVS 4443 Cello Major (3) FA MUS
Private and class instruction.
MVS 4444 Double Bass Major (3) FA MUS
Private and class instruction.
MVS 5251 Applied Violin (2-4) FA MUS
Private and class instruction.
MVS 5252 Applied Viola (2-4) FA MUS
Private and class instruction.
MVS 5253 Applied Cello (2-4) FA MUS
Private and class instruction.
MVS 5254 Applied Double Bass (2-4) FA MUS
Private and class instruction.
MVW 1211 Applied Flute (1) FA MUS
One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training.
MVW 1311 Flute Principal (2) FA MUS
Private and class instruction.
MVW 1312 Oboe Principal (2) FA MUS
Private and class instruction.
MVW 1313 Clarinet Principal (2) FA MUS
Private and class instruction.
MVW 1314 Bassoon Principal (2) FA MUS
Private and class instruction.
MVW 1215 Applied Saxophone (1) FA MUS
Private and class instruction.
MVW 1311 Flute Principal (2) FA MUS
Private and class instruction.
MVW 1312 Oboe Principal (2) FA MUS
Private and class instruction.
MVW 1313 Clarinet Principal (2) FA MUS
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MVW 1314 Bassoon Principal (2) FA MUS
Private and class instruction.
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<td>Foundations course with emphasis on essential content and applications in healthcare informatics and clinical systems. Provides understanding of the interdisciplinary issues in medical and nursing informatics and a foundation for those seeking expertise in healthcare informatics. Focus on technologies in healthcare, nomenclatures and classification systems, health care documentation, electronic medical records, and web-based technologies for healthcare.</td>
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<td>NSC 1101L</td>
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<td>A weekly two-hour laboratory covering professional and military subject matter. Attendance is mandatory for all midshipmen.</td>
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<td></td>
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</tr>
<tr>
<td>NSC 1110</td>
<td>Introduction to Naval Science</td>
<td>3</td>
<td>NVY</td>
<td>FA</td>
</tr>
<tr>
<td></td>
<td>Emphasis on the mission, organization, regulations and components of the U.S. Navy and Marine Corps.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSC 1140</td>
<td>Sea Power and Maritime Affairs</td>
<td>3</td>
<td>NVY</td>
<td>FA</td>
</tr>
<tr>
<td></td>
<td>This course deals with the importance of seapower in historical events, including emphasis on worldwide political-military confrontations following the cold war.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSC 2121</td>
<td>Naval Ships Systems I</td>
<td>3</td>
<td>NVY</td>
<td>FA</td>
</tr>
<tr>
<td></td>
<td>Types, structures &amp; purpose of naval ships. Hydrodynamic forces, stability, compartmentalization, electrical, &amp; auxiliary systems. Theory of design &amp; operation of steam turbine, gas turbine, &amp; nuclear propulsion plants. Shipboard safety &amp; firefighting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSC 2212C</td>
<td>Navigation/Naval Operations I: Navigation</td>
<td>3</td>
<td>NVY</td>
<td>FA</td>
</tr>
<tr>
<td></td>
<td>Piloting and celestial navigation theory, principles, and procedures. Tides, currents, weather, use of navigation instruments and equipment, and practicum. Laboratory required.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## COURSE DESCRIPTIONS

### UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSC 2220</td>
<td>Evolution of Warfare (3) US NVY</td>
<td></td>
<td>This course will provide an introduction to the military/veteran culture and the healthcare needs and concerns related to this unique population.</td>
</tr>
<tr>
<td>NSC 2231</td>
<td>Principles of Naval Management I (3) US NVY</td>
<td></td>
<td>Theory and principles of management, focusing on the officer-manager as an organizational decision maker. Includes interpersonal skills, behavior factors, and group dynamics.</td>
</tr>
<tr>
<td>NSC 2931</td>
<td>Directed Study in Naval ROTC (1-3) US NVY</td>
<td>PR: NSC 2121</td>
<td>Intensive individualized study in particular aspects of Naval Science that are not covered in regular course offerings. Enrollment is recommended for NROTC students who are anticipating attending the Naval Science Institute in Newport, RI, during sophomore/junior summer. Course content and title may vary from term to term.</td>
</tr>
<tr>
<td>NSC 3123</td>
<td>Naval Ships Systems II (3) US NVY</td>
<td>PR: NSC 2121</td>
<td>Capabilities and limitations of fire control systems and weapons, radar and underwater sound for target acquisition, threat analysis, tracking, weapons selection, delivery, and guidance. Various aspects of explosives, fusing and Naval ordnance.</td>
</tr>
<tr>
<td>NSC 3214C</td>
<td>Navigation/Naval Operations II: Seamanship and Ship Operations (3) US NVY</td>
<td>PR: NSC 2212C</td>
<td>International and inland rules of the road; relative motion-vector analysis; ship handling, employment, and tactics, afloat communications; and operations analysis. Laboratory required.</td>
</tr>
<tr>
<td>NSC 3225</td>
<td>Fundamentals of Maneuver Warfare (3) US NVY</td>
<td></td>
<td>This course analyzes the United States Marine Corps as the overarching case study for the advent of maneuver warfare.</td>
</tr>
<tr>
<td>NSC 4224</td>
<td>Amphibious Warfare (3) US NVY</td>
<td></td>
<td>History of amphibious warfare emphasizing doctrine and techniques as well as an understanding of the interrelations of political, strategic, operational, tactical, and technical levels of war from the past.</td>
</tr>
<tr>
<td>NSC 4232</td>
<td>Principles of Naval Management II (Leadership and Ethics) (3) US NVY</td>
<td>PR: NSC 2231</td>
<td>Integration of professional competencies and qualities of effective leadership with emphasis on moral and ethical responsibilities, accountability, communications and military law for the junior officer.</td>
</tr>
<tr>
<td>NSP 3147</td>
<td>Web-Based Education for Staff Development (3) NR NUR</td>
<td></td>
<td>This course provides the learner with the knowledge and skills to facilitate the development of web-based educational materials for nursing and healthcare staff.</td>
</tr>
<tr>
<td>NSP 3640</td>
<td>Introduction to Military and Veteran Healthcare (3) NR NUR</td>
<td></td>
<td>This course provides students with an understanding of systems and strategies necessary to effectively manage human resources related to the military/veteran culture and the healthcare needs and concerns related to this unique population.</td>
</tr>
<tr>
<td>NSP 3880</td>
<td>Foundations of Healthcare QI &amp; Patient Safety (3) NR NUR</td>
<td>PR: NUR 3078, NUR 3805, NUR 4895C</td>
<td>Provides foundational principles, concepts and methods for promoting and improving healthcare quality and patient safety at the micro-, meso-, and macro-system levels with a focus on application at the micro-system level.</td>
</tr>
<tr>
<td>NSP 4095</td>
<td>Registered Nurse First Assistant Course (3) NR NUR</td>
<td></td>
<td>This course will provide a foundation of knowledge and technical skills necessary for the experienced preoperative registered nurse to function in the role of registered nurse first assistant (RNFA).</td>
</tr>
<tr>
<td>NSP 4148</td>
<td>Simulation for Nursing Practice (3) NR NUR</td>
<td></td>
<td>This course is designed to explore the knowledge, skills, and competencies needed to develop, implement and evaluate the integration of simulation into nursing curriculum. It examines the educational theories and simulation framework.</td>
</tr>
<tr>
<td>NSP 4485</td>
<td>An Interdisciplinary Perspective in HIV Disease 6ACT (3) NR NUR</td>
<td></td>
<td>Provides an interdisciplinary perspective on HIV disease. Topics include the etiology, spectrum, and treatment of HIV disease; international perspectives; issues of race, gender, and ethnicity; values, ethics, and their influences on responses to HIV; and how the media has shaped the epidemic.</td>
</tr>
<tr>
<td>NSP 4545</td>
<td>Substance Abuse Across the Lifespan 6ACT (3) NR NUR</td>
<td></td>
<td>Introduction to concepts of substance abuse and theories of addiction. The applicability of theories and concepts of substance use/abuse to clinical assessment, diagnosis and intervention with client populations across the lifespan is explored.</td>
</tr>
<tr>
<td>NSP 4614</td>
<td>Preventative Cardiology for Healthcare Professionals (3) NR NUR</td>
<td></td>
<td>This course focuses on knowledge and evidence-based guidelines for prevention and management of modifiable risk factors for atherosclerotic cardiovascular disease and is appropriate for individuals with knowledge of pathophysiology and pharmacology.</td>
</tr>
<tr>
<td>NSP 4655</td>
<td>Skills for Nursing Staff Development Educator (3) NR NUR</td>
<td></td>
<td>This course provides the learner with theoretical foundations and skill to function in a nursing professional development position. Principles of adult education, communication skills and educational technological advances will be explored.</td>
</tr>
<tr>
<td>NSP 4881</td>
<td>Healthcare Human Resources Systems and Strategies (3) NR NUR</td>
<td></td>
<td>This course will provide students with an understanding of systems and strategies necessary to effectively manage human resources related to the military/veteran culture and the healthcare needs and concerns related to this unique population.</td>
</tr>
</tbody>
</table>
### COURSE DESCRIPTIONS

**UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 3078</td>
<td>Information Technology Skills for Nurses</td>
<td>3</td>
<td>L</td>
<td>This course covers strategies and tools for improving health care quality and safety using the TeamSTEPPS® framework. Strategies for enhancing team performance are emphasized. TeamSTEPPS Master Trainer certification is awarded upon successful completion.</td>
</tr>
<tr>
<td>NUR 3066L</td>
<td>Health Assessment, Wellness, and Prevention Across the Life Span Lab</td>
<td>1</td>
<td>L</td>
<td>Focus is on preparing students for clinical experiences by developing foundational nursing skill techniques in the laboratory that will be used to provide safe clinical care and therapeutic communication with clients in selected settings.</td>
</tr>
<tr>
<td>NUR 3026</td>
<td>Patient Centered Care: Essentials of Nursing Practice (3)</td>
<td>3</td>
<td>NUR</td>
<td>The focus will be on professional nursing techniques for patients of various cultures. Concepts will include the nursing process, safety, quality care, intraprofessional education, therapeutic communication, and health promotion.</td>
</tr>
<tr>
<td>NUR 3026L</td>
<td>Patient Centered Care: Essentials of Nursing Practice Clinical</td>
<td>2</td>
<td>NUR</td>
<td>Focus is to provide the student with experience in the promotion of wellness and prevention of illness in the clinical arena. Students will provide safe clinical care and therapeutic communication with clients in selected settings.</td>
</tr>
<tr>
<td>NUR 3027L</td>
<td>Patient Centered Care: Essentials of Nursing Practice Lab (1)</td>
<td>1</td>
<td>NUR</td>
<td>Focuses on preparing students for clinical experiences by developing foundational nursing skill techniques in the laboratory that will be used to provide safe and effective patient centered care to patients from all cultures.</td>
</tr>
<tr>
<td>NUR 3066</td>
<td>Health Assessment, Wellness, and Prevention Across the Life Span</td>
<td>3</td>
<td>NUR</td>
<td>Focus is on physical assessment and health promotion of individuals across the lifespan. Included are the use of techniques and instruments necessary for the examination, as well as wellness promotion initiatives.</td>
</tr>
<tr>
<td>NUR 3066L</td>
<td>Health Assessment, Wellness, and Prevention Across the Life Span Lab (1)</td>
<td>1</td>
<td>NUR</td>
<td>Physical application of the techniques and instruments necessary for the examination of infants, children and adults. Included are models of wellness and health promotion of individuals across the lifespan.</td>
</tr>
<tr>
<td>NUR 3078</td>
<td>Information Technology Skills for Nurses (1)</td>
<td>1</td>
<td>NUR</td>
<td>Introduction to information technology in order to enhance efforts and improve communication in the classroom and workplace environment. Focuses on developing technical skills and knowledge.</td>
</tr>
<tr>
<td>NUR 3081</td>
<td>Bridge to Professional Nursing (4)</td>
<td>4</td>
<td>NUR</td>
<td>This course assists in transitioning military medic/corpsmen to professional registered nursing practice. Addresses clinical reasoning and communication skills when applying concepts of health to nursing needs of individuals/families across the lifespan.</td>
</tr>
<tr>
<td>NUR 3081L</td>
<td>Bridge to Professional Nursing Practice (2)</td>
<td>2</td>
<td>NUR</td>
<td>Facilitates transition from military medic/corpsman to clinical nursing practice using nursing process. Provides opportunities to apply clinical reasoning and therapeutic communication skills in meeting nursing needs of individuals and families.</td>
</tr>
<tr>
<td>NUR 3125</td>
<td>Pathophysiology for Nursing Practice (3)</td>
<td>3</td>
<td>NUR</td>
<td>This course will provide students with an understanding of pathophysiological concepts and the clinical presentation in humans across the lifespan including genetic, and sociocultural and environmental influences on the expression of disease and injury.</td>
</tr>
<tr>
<td>NUR 3145</td>
<td>Pharmacology in Nursing Practice (3)</td>
<td>3</td>
<td>NUR</td>
<td>Builds on foundation of liberal arts and sciences. Focuses on the concepts of pharmacology essential to generalist nursing practice. Emphasizes quality and safety in preventing, monitoring, and managing the effects of pharmacotherapeutic agents.</td>
</tr>
<tr>
<td>NUR 3215</td>
<td>Medical Surgical Nursing I (3)</td>
<td>3</td>
<td>NUR</td>
<td>Focuses on nursing assessment, prevention, and management of selected health care problems in adults of all ages. Critical thinking is used to analyze the effects of changes in health status and impact of nursing intervention for: patients with alteration in Fluid and Electrolyte Balance, Hematologic System, Integumentary and Immunologic System, Cardiovascular System, Pulmonary System, Musculoskeletal, Sensory System (Visual/Auditory). Patient teaching is incorporated for each topic.</td>
</tr>
<tr>
<td>NUR 3215L</td>
<td>Medical Surgical Nursing Clinical I (3-4)</td>
<td>3-4</td>
<td>NUR</td>
<td>Focuses on clinical reasoning and therapeutic communication skills when applying concepts of health to nursing needs of individuals/families across the lifespan. Emphasize clinical judgment in implementing therapeutic nursing interventions for patients with selected health problems related to specific abnormalities in functional patterns.</td>
</tr>
<tr>
<td>NUR 3535</td>
<td>Psychiatric/Mental Health Nursing (3)</td>
<td>3</td>
<td>NUR</td>
<td>Provides opportunities to apply clinical reasoning and therapeutic communication skills in meeting nursing needs of individuals and families.</td>
</tr>
<tr>
<td>NUR 3535L</td>
<td>Psychiatric/Mental Health Nursing Clinical I (3)</td>
<td>3</td>
<td>NUR</td>
<td>Focuses on the concepts of pharmacology essential to generalist nursing practice. Emphasizes quality and safety in preventing, monitoring, and managing the effects of pharmacotherapeutic agents.</td>
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</tbody>
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*Note: CR: indicates course requirements.*
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

NUR 3535L Psychiatric/Mental Health Nursing Clinical (2-3) NR NUR
PR: NUR 3125, NUR 3145
CR: NUR 3535
Focus on clinical intervention using critical thinking and communication skills with patients who require complex psychiatric rehabilitative care. Opportunities are offered to apply knowledge of psychopathology and psychopharmacologic therapies.

NUR 3678 Nursing Healthcare for Vulnerable Populations (3) NR NUR
The course focuses on the cultural aspects of providing health-related care through experiential analysis of a selected program designed to serve a vulnerable population either here or abroad.

NUR 3805 Nursing as a Profession (2) NR NUR
CR: NUR 3078 and NUR 4895
Focus is on transition to the nursing professional role. Use of self-reflection through personal and professional experiences. Exploration of patient-centered care through quality health care. Concept of life-long learning is explored.

NUR 3825 Introduction to the Profession of Nursing (2) NR NUR
Focus is on initial knowledge needed for the professional nurse to be an effective member of the healthcare team. These include the history of nursing, definition of nursing, ethics, values, professionalism and healthcare in the United States.

NUR 3826 Ethical Legal Aspects in Nursing and Health Care (2) NR NUR
Introduction to contemporary bioethical and legal issues confronting health care providers in a variety of settings. Focuses on identification of legal and ethical principles underlying the decision-making process in nursing and health care.

NUR 3843 Problem Solving and Critical Thinking in Professional Nursing I (1) NR NUR
The course introduces the theoretical component of problem solving & critical thinking in professional nursing. The focus is developing critical thinking skills specific to problem solving in professional nursing.

NUR 3844 Problem Solving and Critical Thinking in Professional Nursing II (1) NR NUR
PR: NUR 3843.
This course provides the opportunity for students to demonstrate achievement in problem solving and critical thinking in the nursing curriculum. The focus is applying critical thinking skills specific to problem solving in professional nursing.

NUR 3875 Telehealth in Healthcare (1) NR NUR
This online course prepares health care professionals on the use of telehealth in health care.

NUR 4069 Health Assessment for Registered Nurses (3) NR NUR
PR: NUR 4634C, NUR 3805.
This course builds on the RN’s previous knowledge and clinical expertise in developing health and physical assessment skills. The emphasis is on the analysis and synthesis of health assessment data as a basis for patient teaching.

NUR 4128 Pathophysiology/Pharmacology (3) NR NUR
PR: NUR 4634C.
Updates pathophysiological and pharmacological concepts critical to clinical decision making in nursing. Focuses on commonly occurring disease processes.

NUR 4165 Evidence-Based Practice WRIN 6ACT (3) NR NUR
This course provides the foundations of clinical inquiry, research methodology and critical appraisal in the synthesis of research findings for application in evidence-based nursing practice.

NUR 4169C Evidence-Based Practice for Bacc Prepared Nurse WRIN 6ACT (3) NR NUR
PR: NUR 3078, NUR 3805, NUR 4895
This course provides the foundations of clinical inquiry, research methodology and critical appraisal in the synthesis of research findings for application in evidence-based nursing practice.

NUR 4216 Medical Surgical Nursing II (4) NR NUR
PR: NUR 3026, NUR 3026L, NUR 3066, NUR 3125, NUR 3145, NUR 3215, NUR 3215L CR: NUR 4216L or NGR 5580L.

NUR 4216L Medical Surgical Nursing Clinical II (4-5) NR NUR
PR: NUR 3215, NUR 3215L, NUR 3125, NUR 3145 CR: NUR 4216

NUR 4285 Healthy Aging: Nursing Care of Older Adults (2) NR NUR
This course focuses on the development & mastery of gerontology core competencies as identified as essential components of baccalaureate nursing ed necessary to provide holistic, evidence-based, & patient-centered care to the older adult population.
### COURSE DESCRIPTIONS

**NUR 4355 Child and Adolescent Health Nursing (3) NR NUR**
- **PR:** NUR 3215, NUR 3525 or NUR 3535, NUR 4216 and NUR 3215L, NUR 4216L and NUR 3525L or NUR 3535L or NGR 5580L.
- **CR:** NUR 4455, NUR 4635L or NGR 5680L
- **CPR:** NUR 4636.

This course will explore the nursing care of children and adolescents within the context of the family. Focus on health promotion, risk factor identification, disease prevention, and health restoration in children and adolescents.

**NUR 4455 Women's Health Nursing (2) NR NUR**
- **PR:** NUR 3215, NUR 3525 or NUR 3535, NUR 4216 and NUR 3215L, NUR 4216L and NUR 3525/NUR 3535L or NGR 5580L.
- **CR:** NUR 4455;
- **CP:** NUR 4635L or NGR 5680L, NUR 4636.

Focuses on the physiologic and psychosocial needs of women, newborns and families related to fertility and infertility, pregnancy and birth.

**NUR 4467 Nursing Care of Women, Children, and Families (4) NR NUR**
- **PR:** NUR 3026 with a minimum grade of C, NUR 3026L with a minimum grade of S
- **CR:** NUR 4467L

Students will learn about the care of the family during the childbearing, parenting, and child developmental phases. The nursing care of the childbearing family will be explored within the social, cultural and community context.

**NUR 4467L Maternal and Pediatric Nursing Care Clinical (2-4) NR NUR**
- **PR:** NUR 4216, NUR 4216L
- **CR:** NUR 4355, NUR 4455

Provides clinical experiences in diverse settings. Focuses on nursing care designed to prevent and reduce risk of disease and injury, promote health, and treat illness and injury in childbearing women, infants, children, adolescents and families.

**NUR 4634C Population Health CPST GCPC (3) NR NUR**
- **PR:** NUR 4169C, NUR 4128

A synthesis of theory and epidemiology enabling students to promote health and wellness in populations. Current practices, policies, and laws will be explored in relation to environment, infectious disease, vulnerable populations and chronic illness.

**NUR 4635L Integrated Nursing Clinical: Community/Public Health, Children and Adolescent Health, and Women’s Health (3-7) NR NUR**
- **PR:** NUR 4216, NUR 4216L.
- **CR:** NUR 4455, NUR 4636, NUR 4355.

Provides clinical learning experiences in diverse community and hospital settings. Focuses on nursing care designed to prevent and/or reduce risk of disease and injury, promote health and wellness, and treat illness and injury in children, adolescents, adults and families, and diverse community populations across the age spectrum.

**NUR 4636 Community/Public Health: Population-Focused Nursing CPST (3) NR NUR**
- **PR:** NUR 3215, NUR 3525 or NUR 3535, NUR 4216 and NUR 3215L, NUR 4216L and NUR 3525L or NUR 3535L or NGR 5580L.

An introduction to community health nursing with an emphasis on employing the nursing process utilizing the community as client. Focuses on community health nursing issues, health management, health promotion and prevention within the community.

**NUR 4636L Community/Public Health Nursing Clinical (3) NR NUR**
- **PR:** NUR 3215, NUR 3525 or NUR 3535, NUR 4216 and NUR 3215L, NUR 4216L and NUR 3525L or NUR 3535L
- **CR:** NUR 4636;
- **CPR:** NUR 4636 or NUR 4286.

The course provides clinical learning experiences in community-based sites in both urban and rural settings. Focuses on nursing care designed to prevent and/or reduce risk of disease and injury, promote health and wellness, and to diverse populations across the age spectrum.

**NUR 4795 Cancer Symptom Management (3) NR NUR**
- **PR:** NUR 3215, NUR 3525 or NUR 3535, NUR 4216 and NUR 3215L, NUR 4216L and NUR 3525L or NUR 3535L

Students taking this course will learn about nursing management of common side effects of cancer and cancer treatments.

**NUR 4807C Leadership and Education Transitions for RNs (3) NR NUR**
- **PR:** NUR 3078, NUR 3805, NUR 4895.

Professional practice and principles of leadership and management for licensed RNs. Focuses on decision making and managing nursing care using multiple learning strategies for academic success. Clinical experiences build upon a practice background.

**NUR 4827C Leadership and Management in Professional Nursing Practice (3) NR NUR**
- **PR:** NUR 4216, NUR 4216L, NUR 4636, NUR 4636L

Principles of nursing leadership and management with an emphasis on decision-making, priority-setting, delegating, and managing nursing care. Focus on the preparation of the professional nurse to work collaboratively in the interdisciplinary healthcare environment. There will be in depth examination of process improvement with a focus on the quality indicator process. Clinical experiences for registered nurse students will be designed to build upon a practice background.

**NUR 4828C Foundations of Healthcare Leadership & Management (3) NR NUR**
- **PR:** NUR 3078, NUR 3805, NUR 4895.

Provides an overview of leadership and organizational theories and strategies required in complex, patient-centered healthcare environments, including communication,
COURSE DESCRIPTIONS

<table>
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<tr>
<td>NUR 4850</td>
<td>Fundamentals of Healthcare Finance for RNs (3) NR NUR</td>
</tr>
<tr>
<td>PR: NUR 3078, NUR 3805, NUR 4895C. This course provides the learner with fundamental knowledge and tools to promote fiscal accountability and effectiveness when providing services as a direct care giver or nurse leader/manager.</td>
<td></td>
</tr>
<tr>
<td>NUR 4888</td>
<td>Coordination of Care in Nursing (2) NR NUR</td>
</tr>
<tr>
<td>Complexity of patient care requires multiple providers across settings. Effective coordination of care and transition management improves outcomes and contributes to high value care. Focus is on care coordination emphasizing collaboration and teamwork.</td>
<td></td>
</tr>
<tr>
<td>NUR 4895</td>
<td>Educational Role of the Nurse in Healthcare (3) NR NUR</td>
</tr>
<tr>
<td>CR: NUR 3805, NUR 3078. Provides the learned with an opportunity to gain knowledge and skills to facilitate the teaching role of the nurse in educating patients and their families as well as nursing and health care staff.</td>
<td></td>
</tr>
<tr>
<td>NUR 4905C</td>
<td>Independent Study (1-5) NR NUR</td>
</tr>
<tr>
<td>Individual or group investigation of problems relevant to the health of individuals or groups. Project requirements individually planned with faculty preceptor.</td>
<td></td>
</tr>
<tr>
<td>NUR 4935</td>
<td>Selected Topics In Nursing (1-3) NR NUR</td>
</tr>
<tr>
<td>Content will depend upon student demand and faculty interest and may focus on any area relevant to nursing practice. May involve class, seminar, and/or clinical laboratory.</td>
<td></td>
</tr>
<tr>
<td>NUR 4937</td>
<td>Nursing Seminar (3) NR NUR</td>
</tr>
<tr>
<td>This is a variable topics course. Therefore the particular course objectives and outcomes vary from course to course. But in all cases course objectives and outcomes will meet the CON program outcomes. Examples: PERI OP/ER-Critical Care/Ambulatory Nurse.</td>
<td></td>
</tr>
<tr>
<td>NUR 4948L</td>
<td>Preceptorship (5-6) NR NUR</td>
</tr>
<tr>
<td>PR: NUR 4216, NUR 4216L, NUR 4355, NUR 4455, NUR 4467L. Individually contracted 150 hours of clinical practicum collaboratively planned by students, faculty, and agency personnel. Opportunity to synthesize theory and clinical practice for professional Nursing.</td>
<td></td>
</tr>
<tr>
<td>OCE 2001 Introduction to Oceanography CANP (3) MS MSC</td>
<td></td>
</tr>
<tr>
<td>This is a class in basic oceanography covering chemical (what is the sea made of), physical (tides, currents, waves), geological (ocean floor and coasts) and biological (all life in the oceans) aspects, and their interactions.</td>
<td></td>
</tr>
<tr>
<td>OCE 4930</td>
<td>Selected Topics in Marine Science (1-3) MS MSC</td>
</tr>
<tr>
<td>Selected topics in marine science including marine biology, marine chemistry, marine geology and geophysics, physical oceanography, and interdisciplinary topics relating to marine environments.</td>
<td></td>
</tr>
<tr>
<td>ORI 3004</td>
<td>Communication as Performance (3) AS SPE</td>
</tr>
<tr>
<td>Designed to develop an understanding of performance as a communicative process and as a method through which to study communication. This course emphasizes the ways performance communicates social, cultural, and political perspectives and identities.</td>
<td></td>
</tr>
<tr>
<td>ORI 3950</td>
<td>Communication As Performance Laboratory (1-3) AS SPE</td>
</tr>
<tr>
<td>The study, rehearsal, and performance of literature for Readers Theatre and Chamber Theatre productions.</td>
<td></td>
</tr>
<tr>
<td>ORI 4019</td>
<td>Performing Identity and Culture GCPC (3) AS SPE</td>
</tr>
<tr>
<td>Focuses on theory and practice of identity and culture as performed in ritual, community, and aesthetic contexts.</td>
<td></td>
</tr>
<tr>
<td>ORI 4120</td>
<td>Performance of Poetry (3) AS SPE</td>
</tr>
<tr>
<td>Critical appreciation of lyric and narrative poetry and communication of that appreciation to audience. Study of poetic theory and prosodic techniques.</td>
<td></td>
</tr>
<tr>
<td>ORI 4150</td>
<td>Performing Nonfiction (3) AS SPE</td>
</tr>
<tr>
<td>Explores the genre of nonfiction, including diaries, memoirs, travelogues, new journalism, personal essays, and weblogs, through performance.</td>
<td></td>
</tr>
<tr>
<td>ORI 4220</td>
<td>Performing Young Adult Literature (3) AS SPE</td>
</tr>
<tr>
<td>Performance of literature written for young adults with an emphasis on cultural values and beliefs.</td>
<td></td>
</tr>
<tr>
<td>ORI 4310</td>
<td>Group Performance of Literature (3) AS SPE</td>
</tr>
<tr>
<td>PR: ORI 3004, with a grade of C or above Designed to introduce the student to and give experience in various forms of group approaches to performance.</td>
<td></td>
</tr>
<tr>
<td>ORI 4320</td>
<td>Writing for Performance (3) AS SPE</td>
</tr>
<tr>
<td>Explores the intersection of writing and performance as aesthetic and communicative practices.</td>
<td></td>
</tr>
<tr>
<td>ORI 4410</td>
<td>Performance Art (3) AS SPE</td>
</tr>
<tr>
<td>Explores history, criticism, and practice of performance art as a genre of performance.</td>
<td></td>
</tr>
<tr>
<td>ORI 4460</td>
<td>Performing Relationships (3) AS SPE</td>
</tr>
<tr>
<td>Explores interpersonal, organizational, and intercultural theories of human relationships as realized in literary texts through performance.</td>
<td></td>
</tr>
<tr>
<td>ORI 4931</td>
<td>Performance and Video (3) AS SPE</td>
</tr>
<tr>
<td>This course features adaptation, direction, and performance of literature for video productions.</td>
<td></td>
</tr>
<tr>
<td>ORI 5930</td>
<td>Topics in Performance Genres (3) AS SPE</td>
</tr>
<tr>
<td>Variable topics course.</td>
<td></td>
</tr>
<tr>
<td>OSE 4601 Optical Product Technology (3) EN EGR</td>
<td></td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

PR: EML 3500, EGN 3343, both with a minimum grade of C or better
Overview of the operating principles, design, and construction of a broad range of optically-based products, such as: lamps, cameras, displays/monitors, night vision, cloaking, bar codes, rangefinders, locks, etc. Aimed at mechanical engineering seniors.

PAD 3003 Introduction to Public Administration (3) AS SPF
Examination of organizational behavior and change, policy process, public management, financial administration, and personnel management from the perspective of public and social delivery.

PAD 4144 Nonprofit Organizations and Public Policy 6ACT (3) AS SPF
Role and importance of third sector (voluntary) organizations in American society; focus on public policy through service in a voluntary organization.

PAD 4204 Public Financial Administration (3) AS SPF
Analysis of problems in the growth and development of public budgetary theory and Federal budgetary innovations.

PAD 4415 Personnel & Supervision in Today's Diverse Organizations (3) AS SPF
Introduces students to concepts, principles and practices of personnel management and supervision that influence the attainment of desired performance goals in today's public and not-for profit organizations. Course participants will explore issues that influence the successful management of human resources in dynamic employment settings.

PAD 4712 Managing Information Resources in the Public Sector (3) AS SPF
Introduces students to the fundamental concepts, theories, principles and practices in public information management. Internet access is required.

PAD 4930 Selected Topics in Public Administration and Public Policy (3) AS SPF
Selected issues and topics in Public Administration and Public Policy with course content based on student demand and instructor's interest. May be repeated for up to 6 credits as topics vary.

PAD 5035 Issues in Public Administration and Public Policy (3) AS SPF
Selected issues and topics in Public Administration and Public Policy.

PAD 5044 Environment of Public Administration (3) AS SPF
Examination of the legal, political, and ethical environment in which public managers work.

PAD 5605 Administrative Law and Regulation (3) AS SPF
An examination of the constitutional and statutory base and limitations of the administrative process, administrative adjudication, rule-making, and the judicial review of such actions. An examination of the Constitutional and statutory base and limitations of the administrative process, administrative adjudication, rule-making, and the judicial review of such actions. Attention is also directed to regulatory commissions, their functions, powers, management and relationship with other branches of government.

PAD 5700 Research Methods in Public Administration (3) AS SPF
Research design; skills in public agencies. Must be prepared to demonstrate proficiency in EXCEL, Access, and other relevant software programs.

PAD 5807 Urban and Local Government Administration (3) AS SPF
Analysis of the role of the administrator at the municipal level, the division of functions, policy formation, alternative governmental structures, effects on the administrative process.

PAD 5836 Comparative Public Administration (3) AS SPF
How organizations and managers perform within a particular environment, potential impact of innovation, and how service is accomplished in a variety of socio-economic environments.

PCB 3023 Cell Biology (3) AS BCM
CR: CHM 2210
Cell Biology is the study of living properties of cells and encompasses a broad area of the life sciences that includes cellular physiology and life cycle, organelle structure and function, and biomolecular structure and function.

PCB 3023L Cell Biology Laboratory (1) AS BCM
CPR: PCB 3023.
Laboratory portion of Cell Biology. Metabolic processes within the cell.

PCB 3043 Principles of Ecology (3) AS BIN
An introduction to the basic principles and concepts of ecology at the ecosystem, community, and population level of organization. Lecture only.

PCB 3043L Principles of Ecology Laboratory (1) AS BIN
CPR: PCB 3043.
Laboratory portion of PCB 3043, Principles of Ecology.

PCB 3063 General Genetics (3) AS BCM
CPR: CHM 2210.
Introduction to genetics including the fundamental concepts of Mendelian, molecular and population genetics. Lecture only.

PCB 3063L General Genetics Laboratory (1) AS BCM
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

CPR: PCB 3063.
Laboratory investigation techniques in general genetics including Mendelian and non-Mendelian relationships, and gene interactions.

PCB 3712 General Physiology (3) AS BIN
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L and CHM 2045, CHM 2046 and MAC 1105 or higher-level MAC course or STA 2023.
Comparative analysis of animal structure and function: organ systems and activities of body tissue and organs. Functional responses of plants to both internal and environmental signals lecture only.

PCB 3713L General Physiology Laboratory (1) AS BIN
CPR: PCB 3712
Laboratory portion of General Physiology.

PCB 4024 Molecular Biology of the Cell (3) AS BCM
PR: PCB 3023, PCB 3063, MCB 3410
This lecture-based course will focus on advanced principles of molecular cell biology with emphasis on protein structure and function in key cellular pathways. The course is suitable for majors/nonmajors.

PCB 4026 Molecular Biology of the Gene (3) AS BCM
PR: PCB 3023, PCB 3063, MCB 3410
This lecture-based course will provide fundamental knowledge of scientific concepts and principles of the molecular aspects of DNA metabolism in pro- and eukaryotes for majors/nonmajors.

PCB 4109 Cancer Biology (3) AS BCM
PR: MCB 3410, PCB 3023, PCB 3063
This course will provide a background in basic cancer biology, including genetics, cellular physiology and metabolism associated with cancer development. Aspects of drug therapy and discovery will be considered.

PCB 4234 Principles of Immunology (3) AS BCM
PR: PCB 3023
Emphasis is on organization and functions of vertebrate immune system. Basic cellular and molecular mechanisms of immune responses in health and disease are addressed as well as the principles and applications of immunological methods. Lecture only.

PCB 4522C Experimental Genetics and Cell Biology (3) AS BCM
PR: PCB 3023, PCB 3063 and PCB 3023L or PCB 3063L
This course will teach students how to utilize and integrate concepts from genetics and cell biology in a research laboratory environment using current scientific literature, model organisms and molecular techniques.

PCB 4663 Human Genetics (3) AS BCM
PR: PCB3023, PCB3063.
A lecture-based course building upon principles introduced in Cell Biology and Genetics to explore advanced topics applied to human heredity and inherited disorders. Instruction includes problem solving, group activities, internet and individual projects.

PCB 4671 Molecular Evolution (3) AS BCM
PR: PCB 3063.
The study of evolution at the molecular level and how it is applied to cell and molecular biology.

PCB 4674 Organic Evolution (3) AS BIN
PR: PCB 3063.
An introduction to modern evolutionary theory. Lecture on population genetics, adaptations, speciation theory, phylogeny, human evolution and related areas. Lec.-dis.

PCB 4723 Animal Physiology (3) AS BIN
PR: PCB 3712, CHM 2210, PHY 2053 and MAC 1105 or higher-level MAC course or STA 2023.
CPR: CHM 2211.
Advanced presentation of mechanisms employed by animals to interact with their environment and to maintain their organization. Lecture only.

PCB 4723L Animal Physiology Laboratory (1) AS BIN
CR: PCB 4723.
Laboratory portion of Animal Physiology.

PCB 4744 Biomedical Physiology (3) AS BCM
PR: PCB 3023
Detailed examination of mammalian physiology focusing on the cellular and molecular mechanisms that underlie and regulate physiological function.

PCB 4843 Principles of Neuroscience (3) AS BCM
PR: PCB 4723 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and PHY 2053.
CPR: CHM 2211.
Study of the mammalian brain's structure and function, with an emphasis on human neuroanatomy, neuropharmacology, and neurophysiology. Topics include brain imaging, dementia, mechanisms of learning/memory, and neuropathological processes. Lecture only.

PCB 5256 Developmental Mechanisms (3) AS BCM
PR: ZOO 4695.
Topics in modern developmental biology to be covered in lecture and through readings so as to gain a detailed understanding of cellular and molecular mechanisms of differentiation and pattern formation in various eukaryotic species for majors/non-majors

PCB 5307 Limnology (3) AS BIN
PR: PCB 3043 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and PHY 2053.
CPR: CHM 2211.
An introduction to the physical, chemical, and biological nature of fresh-water environments. Lecture only.

PCB 5307L Limnology Laboratory (1) AS BIN
CPR: PCB 5307.
COURSE DESCRIPTIONS

UNIVERSITY OF SOUTH FLORIDA 2017-2018 UNDERGRADUATE CATALOG

Laboratory portion of Limnology. Laboratory and field experience in the area of aquatic ecology.

PCB 5616 Molecular Phylogenetics (3) AS BCM
PR: PCB 3063.
Provides a theoretical (lecture) and practical (computer lab) framework to allow students to carry out phylogenetic analysis using molecular data. Majors or nonmajors.

PEL 1121 Golf I (2) ED TAL
Introductory experience in the sport of golf. Fundamental skills, information, strategy, and participation.

PEL 1341 Tennis I (2) ED TAL
Introductory experiences in the sport of tennis. Basic skills, playing strategies, lecture, demonstration, and participation.

PEL 2122 Golf II (2) ED TAL
Continuation of PEL 1121. Emphasis on course play and refinement of strokes.

PEL 2342 Tennis II (2) ED TAL
Continuation of PEL 1341L. Refinement of basic skills, supplementary strokes, greater emphasis on tactics and playing strategies.

PEL 2441 Racquetball (2) ED TAL
Development and refinement of the skills and strategies of racquetball with opportunity for competition and tournament play.

PEM 2131 Weight Training (2) ED TAL
Knowledge and techniques necessary for increasing muscle function. Assessment of status and development of a personal program

PEM 2441 Karate (2) ED TAL
Introductory experiences in the sport of Karate. Fundamental skills, strategy, information, and participation.

PEM 2930 Selected Topics (1-2) ED TAL
Activities offered are selected to reflect student need and faculty interest.

PET 1121 Swimming I (2) ED TAL
Development and refinement of the essential skills and information necessary for enjoying swimming. Emphasis on personal safety.

PET 2136 Skin & Scuba Diving (2) ED TAL
PR: PEN 1121 or equivalent.
Development of the essential skills and knowledge necessary for enjoying the sport of Skin & Scuba Diving. Correct utilization and care of equipment; emphasis on personal safety.

PET 3031 Motor Behavior (3) ED TAL
Study of the assessment, evaluation and motor development performance of children and adolescents and application of principles of motor skills acquisition in physical education instruction. Open to non-majors.

PET 3076 Fitness Across the Lifespan (3) ED TAL
This course will focus on the physiological changes of physical activity in children, adolescents and the elderly. Clinical rotations are part of the course. Restricted to majors. Cannot be repeated.

PET 3211 Stress Management (2) ED TAL
This course will focus on the health and psycho-physiological aspects of stress. A variety of topics will be addressed for self-regulating stress such as changing perceptions, time management, communication, biofeedback, exercise, and muscle relaxation.

PET 3312 Biomechanics (3) ED TAL
This course will focus on the structure and function of the skeletal and muscular systems as well as the mechanical principles related to motor performance.

PET 3314 Professional Development Seminar (1) ED TAL
This course will introduce the student to the exercise science field. Focus will be on professional conduct, job opportunities, organizations, certifications, and trends/issues. Students will develop skills to critique fitness/wellness information.

PET 3361 Nutrition for Fitness and Sport (3) ED TAL
This course will address weight management/weight loss, common diets, dietary supplements, ergogenic aids, and eating disorders. Content will focus on nutrition and weight management guidelines established by the American College of Sports Medicine.

PET 3364 Physical Activity Epidemiology (3) ED TAL
A presentation of the background and main concepts of epidemiology and discussion and summary of original research. Major topics include coronary artery disease, cerebrovascular disease, peripheral vascular disease, diabetes, arthritis, and COPD.

PET 3384 Exercise Testing and Prescription (3) ED TAL
In this course students will become proficient in performing a variety of exercise tests and prescribe appropriate exercises for aerobic capacity, muscular strength and endurance, body composition, flexibility and other parameters of physical fitness.

PET 3404 Emergency Response and Planning (3) ED TAL
Students will develop emergency response knowledge and skills through ARC first aid emergency response, CPR/AED certifications and will proactively assess, develop and implement a plan of response for emergency situations in fitness/wellness centers.

PET 3421 Curriculum and Instruction in Physical Education (3) ED TAL
Development of knowledge and skills related to the instruction process of physical education. Preparation of materials and planning instruction.

PET 3441 Instructional Design and Content: Middle School Physical Education (3) ED TAL
The development of physical education content and instructional practices for middle school students. The focus is upon matching appropriate
COURSE DESCRIPTIONS

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PET 3640 Adapted Physical Education (3) ED TAL
A study of characteristics, programming needs and teaching of physical education for students with disabilities.

PET 3713 Theory and Practice of Teaching Group Exercise (3) ED TAL
In developing group exercise leadership skills, students will learn how to apply principles of teaching safe and effective exercises designed to enhance cardiovascular endurance, muscular strength/endurance, and flexibility.

PET 3931 Selected Topics in Sports Medicine (1-3) ED TAL
Topics offered are selected to reflect student need and faculty interest.

PET 3940 Practicum in Fitness/Wellness (3) ED TAL
This course will provide the initial field experience in a community fitness/wellness center serving general populations. Students will gain practical experience with regard to teaching group exercise and conducting fitness testing and prescription.

PET 4088 Individualized Fitness/Wellness Programming CPST (3) ED TAL
In this course students will learn how to assess, evaluate, and design safe and effective programs for individual clients. Students will also learn how to incorporate appropriate activities for specialized clients or populations.

PET 4093 Strength and Conditioning (3) ED TAL
This course will provide students with the information necessary for designing and implementing a successful strength and conditioning program through assessment and analysis of fitness and sport movement.

PET 4219 Exercise Psychology (3) ED TAL
A presentation of the basic concepts related to exercise behavior. The content will include topics related to the psychosocial dimensions of exercise behavior to include participation, motivation, and adherence. Theoretical models will also be presented.

PET 4380 Applied Exercise Science (3) ED TAL
This course will explore the application of physiological and kinesiological principles to teaching physical education. Specific changes and adaptations of children as a result of exercise will be examined. Restricted to majors. Not repeatable.

PET 4401 Class Management, Safety, Ethics, Law, and Organization and Administration of Physical Education (3) ED TAL
This course will examine the various classroom management approaches, professional ethics, school law, safety, and the organization and administration of physical education programs.

PET 4402 Planning and Evaluating Fitness/Wellness Programs (3) ED TAL
This course will focus on the design of high quality fitness/wellness programs in worksite and other settings. Students will learn and apply the major components of program planning – needs assessment, development, implementation, and evaluation.

PET 4413 Administration of Fitness/Wellness Centers (3) ED TAL
This course will examine management issues in the areas of human resources, budgeting, marketing, legal liability, and risk management. Students will develop skills to manage safe/effective programs and services in various fitness/wellness settings.

PET 4432 Instructional Design & Content: Physical Education Elementary I (3) ED TAL
This is the first in a two-course sequence in which students study movement forms and instructional processes suitable for elementary age students. Majors only.

PET 4433 Instructional Design & Content: Physical Education Elementary II (3) ED TAL
This course prepares students to select, plan and conduct complex movement experiences for K-6 students.

PET 4442 Instructional Design and Content: Physical Education Secondary (3) ED TAL
Development of knowledge and skills related to the teaching of selected movement activities such as team sports, gymnastics, and physical fitness. Focus is on understanding mechanical principles utilized within those activities as well as on instructional progression and the preparation of materials for instruction at the secondary school level.

PET 4510 Measurement and Evaluation in Physical Education (3) ED TAL
A study of the principles and techniques of educational measurement as applied to the teaching of physical education; study of the functions and techniques of measurement in the evaluation of student progress toward the objectives of physical education.

PET 4550 Clinical Exercise Testing and Prescription (3) ED TAL
A presentation of concepts related to the clinical aspects of fitness assessment and exercise programming. Clinical conditions that will be considered include: cardiovascular disease, pulmonary disease, metabolic disease, arthritis, and geriatrics.

PET 4742 Secondary Physical Education Methods: Physical Act (3) ED TAL
The course will prepare students to plan and conduct PE programs which meet National and State Content Standards related to physical activity, fitness, nutrition, and healthy living concepts. PE majors only. Not repeatable for credit.

PET 4765 Scientific Principles of Athletic Coaching (3) ED TAL
COURSE DESCRIPTIONS

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The application of principles from philosophy, psychology, sociology, and physiology to competitive athletics and coaching.

PET 4820 Sport Skill Proficiency (2) ED TAL
This course is designed to assist students in becoming proficient in and acquiring a foundation of the fundamental physical skills necessary to participate in and teach a variety of individual and team sports. Course restricted to PE majors.

PET 4905 Independent Study: Professional Physical Education (1-4) ED TAL
Specialized independent study determined by the student's needs and interests.

PET 4929 Senior Seminar in Physical Education CPST (3) ED TAL
CR: PET 4946 and PET 4947
Students engage in self-reflection and synthesis of university coursework and K-12 physical education final internship experiences.

PET 4841 Internship in Fitness/Wellness (9) ED TAL
This course will provide the final field experience in a community fitness/wellness center serving both general and special populations. Practical experiences will focus on all aspects of program development, delivery, and management.

PET 4942 Physical Education Pre-Internship: Elementary (3) ED TAL
A part-time internship in elementary school physical education. Focus on the nature of the total elementary school curriculum, characteristics of students, and application of appropriate content and instructional competencies.

PET 4944 Physical Education Pre-Internship: Secondary (3) ED TAL
A part-time internship in middle or high school level physical education with focus on the relationship of physical education to the needs of the adolescent and the implementation of appropriate content and methodology.

PET 4946 Internship in Physical Education: Elementary (6) ED TAL
A full-time internship in the elementary school in which the student undertakes the full range of teaching responsibilities in elementary physical education.

PET 4947 Internship in Physical Education: Secondary (6) ED TAL
CR: PET 4946 and PET 4929
A full-day internship in middle, junior or senior high school physical education programs with focus on the implementation of appropriate content and methodology to meet the needs of secondary students.

PGY 2401C Beginning Photography (3) FA ART
Introduction to the expressive possibilities of photographic media. Projects and assignments will introduce students to both traditional and experimental ways of working with light-sensitive materials with an emphasis on the interdependence of form, technique, and concept.

The course will also provide an overview of significant trends and directions in contemporary art photography.

PGY 3410C Intermediate Photography (3) FA ART
A mid level course expanding the student's visual and technical skills while establishing the beginning of a personal artistic direction.

PGY 3610C Photojournalism I (3) AS MCM
PR: MMC 2100 and MMC 3602. Laboratory required.
Fundamentals of news and feature photography. Camera operation, picture composition, darkroom techniques, editing in digital format with introduction to software applications. History, ethics and law of photojournalism.

PGY 3620 Photojournalism II (3) AS MCM
PR: PGY 3610C. Laboratory required.
Advanced process and practice of photography for publication.

PGY 3820C Digital Media I (3) FA ART
This course builds upon the concepts introduced in Introduction to Multimedia Systems and focuses upon digital photographic creation and editing.

PGY 3930C Special Topics: Photography (3) FA ART
PR: ART 2201C, ART 2203C, ARH 2050, ARH 2051, ART 2301C, ART 3310C, PGY 2401C, PGY 3410C.
A mid-level course expanding the student's visual and technical skills while establishing the beginning of a personal artistic direction by exposing the student to new ideas, technical skills and genres, including, but not limited to: color photography, digital photography, non-silver and documentary photography. Repeatable up to 9 hours.

PGY 4420C Advanced Photography (3) FA ART
PR: ART 3939, ARH 4450, ARH 4475C,PGY 3410C (3 cr.), PGY 3930C (9 cr.) and a 3.25 major GPA.
Continued problems in photography.

PGY 4822C Digital Media II (3) FA ART
This course builds upon the concepts introduced in Digital Media I and focuses upon digital photographic, web and digital video creation.

PHC 2100 Introduction to Public Health (3) PH PHC
A course serving as primer to study of public health. Provides overview of core disciplines of public health, and platform for future undergraduate study in public health.

PHC 3302 Introduction to Environmental & Occupational Health (3) PH EOH
Introduces the principles of environmental health from a public health perspective. This course is designed for students with an interest in the environment, assessment of risk, human health issues, and control strategies to reduce health risks.

PHC 3320 Environmental Health Science (3) PH EOH
Introduces students to environmental health science topics in the context of their impact on human and public health. It is open to all major programs. It may not be repeated for credit.

PHC 3721 Research Methods in Env and Occ Health (3) PH EOH
The purpose of this course is to provide a broad overview of the instruments and techniques used in contemporary environmental and occupational health science. It is open to all major programs. It may not be repeated for credit.

PHC 4030 Introduction to Epidemiology (3) PH EPB
Course provides an overview of epidemiological methods and the application to understanding health- and non-health issues. Students will develop critical thinking skills and apply the concepts applied problems, both in and outside the field of health.

PHC 4031 Emerging Infectious Diseases (3) PH PHC
This course addresses important infectious diseases and the principles of detection, diagnosis, prevention and control as well as the impact on public health. Students will presenting information on emerging infectious disease trends in group projects.

PHC 4032 Foundations of Infection Control (3) PH PHC
This course is based on infection control competencies from the board certification in infection control exam. With successful completion of this course, students will demonstrate mastery and application of these principles to real-world situations.

PHC 4069 Biostatistics in Society (3) PH EPB
This course exposes students to the role of biostatistics in advancing healthcare and improving health through landmark studies and cases in a wide range of fields, including clinical trials, epidemiology, environmental studies, and healthcare evaluation.

PHC 4101 Overview of Public Health Programs and Policies GCPC (3) PH PHC
A survey of policies and programs in public/community health with emphasis on specific needs and problems of Florida.

PHC 4109 Public Health Biology (3) PH PHC
This course offers a biological perspective on public health issues related to chronic and infectious diseases. This course provides an overview of basic biological concepts, molecular biology, and infectious and chronic diseases of public health concern.

PHC 4117 Workforce & Leadership Development (3) PH PHC
This course will provide students with an overview of the skills that are necessary to find and obtain employment in the field of public health. It will also cover leadership styles & skills so that students can succeed as public health professionals.
**COURSE DESCRIPTIONS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC 4376</td>
<td>Disaster by Design: Exercise Development for Homeland Security Professionals</td>
<td>3 PH PHC</td>
<td>This course is an introduction to the Homeland Security Exercise and Evaluation Program and will discuss the role of planning, training, and exercises in the context of organizational preparedness for emergency management related activities.</td>
</tr>
<tr>
<td>PHC 4406</td>
<td>Pop Culture, Vices and Epidemiology</td>
<td>3 PH EPB</td>
<td>Encourages students to think how everyday things affect the public's health and safety. Topics in this class include: Alcohol, Sex, Coffee, Chocolate, Sleep and Tobacco. This class will cover health benefits and consequences of these things and more.</td>
</tr>
<tr>
<td>PHC 4431</td>
<td>Economic Rationale of Health Policy</td>
<td>3 PH HPM</td>
<td>This course introduces the economic rationale for policies that regulate health care markets, focusing on the market failures that triggered policy changes and the successes and failures of those policies.</td>
</tr>
<tr>
<td>PHC 4464</td>
<td>Introduction to Health Disparities &amp; Social Determinants</td>
<td>3 PH PHC</td>
<td>This course provides an overview of health disparities. We will examine social and cultural determinants of health, including race/ethnicity, geography, SES, gender, sexual orientation, disability status, migration status, age, religion and spirituality.</td>
</tr>
<tr>
<td>PHC 4501</td>
<td>Health Education Theory and Behavior</td>
<td>3 PH CFH</td>
<td>Development of a basic understanding of the major theories and models focused on the development, implementation, and evaluation of health education interventions.</td>
</tr>
<tr>
<td>PHC 4542</td>
<td>Stress, Health and College Life</td>
<td>3 PH CFH</td>
<td>The purpose of this course is to examine the relationship between stress, as a multi-casual concept, health and disease. Focus areas include: the historical evolution and current theories of stress as they relate to types of stressors, physiological reactions and predisposition to disease, and techniques related to the recognition and prevention of an unhealthy level of stress.</td>
</tr>
<tr>
<td>PHC 4582</td>
<td>Health Education Methods and Strategies</td>
<td>3 PH CFH</td>
<td>The purpose of this course is for students to describe and develop those health education methods, communication, and advocacy strategies to enhance the public's health.</td>
</tr>
<tr>
<td>PHC 4592</td>
<td>Public Health Genetics</td>
<td>3 PH PHC</td>
<td>PR: BSC 1005 or BSC 1020. This course will introduce the fundamental principles of genetics to the field of public health by discussing basic concepts and how advances in human genetics, genomics and molecular biotechnology are to improve public health and prevent diseases.</td>
</tr>
<tr>
<td>PHC 4720</td>
<td>Foundation to Professional Writing in Public Health</td>
<td>3 PH EPB</td>
<td>Course provides students the opportunity to learn about all aspects of professional writing techniques including grammar and spelling errors, writing styles, authorship, reference and citation systems, and guidance for scientific communication.</td>
</tr>
<tr>
<td>PHC 4755</td>
<td>Foundations of Evaluation and Research in Public Health</td>
<td>3 PH PHC</td>
<td>Course covers evaluation and research including literature reviews; ethical issues; differences between evaluation and research; define quantitative and qualitative, use of spreadsheet for budgets and data analysis, and communication of results.</td>
</tr>
<tr>
<td>PHC 4931</td>
<td>Health Care Ethics</td>
<td>3 PH EOH</td>
<td>This course provides the student with a broad overview of health care ethics. Will cover ethical issues that concern a wide variety of health professionals who are interested in clinical situations, as well as public health professionals and researchers.</td>
</tr>
<tr>
<td>PHC 4942</td>
<td>Public Health Field Seminar</td>
<td>2-3 PH EPB</td>
<td>PR: PHC 4101. This course provides students with an overview of field experiences in public health. Representatives from public health organizations will speak about worksites. Students will observe public health professionals in their practice environment. Repeatable for a maximum of 12 credit hours.</td>
</tr>
<tr>
<td>PHC 5933</td>
<td>Special Topics</td>
<td>1-3 PH PHC</td>
<td>Provides students the opportunity to learn about the multiple ways to view controversial topics in public health. It covers current public health topics including biomedical issues, social and behavioral factors, and environmental issues.</td>
</tr>
<tr>
<td>PHH 3062</td>
<td>History of Western Philosophy: Ancient Philosophy</td>
<td>3 AS PHI</td>
<td>A survey of Western philosophy from the Pre-Socratics to Late Antiquity.</td>
</tr>
<tr>
<td>PHH 3280</td>
<td>Medieval and Renaissance Philosophy</td>
<td>3 AS PHI</td>
<td>This course is a survey of medieval and early Renaissance philosophy in the Latin West, focusing on the thought of Augustine, Anselm, Peter Abelard, Thomas Aquinas, John Duns Scotus, and William Ockham.</td>
</tr>
<tr>
<td>PHH 3400</td>
<td>History Of Philosophy - Modern</td>
<td>3 AS PHI</td>
<td>A survey of western philosophy from the end of the middle ages to the nineteenth century.</td>
</tr>
<tr>
<td>PHH 3420</td>
<td>Early Modern Philosophy</td>
<td>3 AS PHI</td>
<td>A survey of Western Philosophy from the end of the Renaissance to the beginnings of the Enlightenment.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Description</td>
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<tr>
<td>PHI 3130</td>
<td>Formal Logic CAQR 6AMT (3) AS PHI</td>
<td>A survey of Western Philosophy during the Enlightenment.</td>
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<tr>
<td>PHI 4440</td>
<td>Continental Philosophy WRIN 6ACT (3) AS PHI</td>
<td>A study of developments in post-Kantian European philosophy.</td>
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<tr>
<td>PHI 4600</td>
<td>Contemporary Philosophy 6ACT (3) AS PHI</td>
<td>Selected schools of twentieth century thought such as idealism, positivism, pragmatism, realism, and existentialism.</td>
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<tr>
<td>PHI 4700</td>
<td>American Philosophy 6ACT (3) AS PHI</td>
<td>Major traditions in American thought, Puritanism, the Enlightenment, Transcendentalism, Idealism, Pragmatism, and Analytic Philosophy in relation to American culture.</td>
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<tr>
<td>PHI 4820</td>
<td>Chinese Philosophy (3) AS PHI</td>
<td>A survey of Confucianism, Taoism and other aspects of Chinese thought. The course is available to both majors and non-majors and does not have laboratory sections associated with it.</td>
<td></td>
</tr>
<tr>
<td>PHI 1103</td>
<td>Critical Thinking CASB 6ACT (3) AS PHI</td>
<td>Critical thinking is the mind’s faculty for catching its own (potential or actual) mistakes, and correcting its own misapprehensions. We will hone this faculty by practicing the critical evaluation of real-world decisions.</td>
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<tr>
<td>PHI 1401</td>
<td>Science and Society CANP (3) AS PHI</td>
<td>As consumers of scientific information, it is our social obligation to understand how scientific knowledge comes about. This course is about the process of scientific inquiry, and about scientific knowledge as the product of such inquiry.</td>
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<tr>
<td>PHI 1600</td>
<td>Introduction to Ethics CAHU HHCP (3) AS PHI</td>
<td>In order to promote reflection concerning how we should act and what kinds of people we should be, this course introduces students to ethical theories, concepts, problems, and methods.</td>
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<tr>
<td>PHI 2010</td>
<td>Introduction to Philosophy CAHU 6ACT (3) AS PHI</td>
<td>An introduction to several major themes in philosophy, as well as central philosophical concepts, texts, and methods.</td>
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<tr>
<td>PHI 2101</td>
<td>Introduction to Formal Logic CAQR 6AMT (3) AS PHI</td>
<td>This course is an introduction to the basic terms, concepts, and methods of formal logic.</td>
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</tr>
<tr>
<td>PHI 2830</td>
<td>Contemporary Moral Issues (3) AS PHI</td>
<td>Open to all students. A study of contemporary moral issues concerning racism, sex, sexism, abortion, poverty, crime, war, suicide, and human rights in general.</td>
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<tr>
<td>PHI 2831</td>
<td>Ethics and Business (3) AS PHI</td>
<td>An application of traditional ethical theories to contemporary problems in business.</td>
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<tr>
<td>PHI 3130</td>
<td>Formal Logic CAQR 6AMT (3) AS PHI</td>
<td>PR: PHI 2101 or MGF 1106 or MGF 1107 or one semester of calculus. A study of predicate calculus, predicate calculus with identity, formal semantics, and elementary metalogic. Strongly recommended for philosophy majors.</td>
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</tr>
<tr>
<td>PHI 3404</td>
<td>Philosophy of Science (3) AS PHI</td>
<td>How is science different from other methods of inquiry about the world? What distinguishes science from pseudoscience? From religion? How do we test scientific theories? What are the factors that lead scientists to accept a theory?</td>
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<tr>
<td>PHI 3633</td>
<td>Biomedical Ethics (3) AS PHI</td>
<td>This course will focus on the ethical issues arising from advances in medical practice, delivery of health care, and scientific research.</td>
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<tr>
<td>PHI 3636</td>
<td>Professional Ethics (3) AS PHI</td>
<td>An examination of the ethical problems that professionals will face in the complex, global society of the next few decades: confidentiality, divided loyalty, racism/sexism, etc.</td>
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<tr>
<td>PHI 3640</td>
<td>Environmental Ethics (3) AS PHI</td>
<td>A study of alternative theories of environmental ethics, including the application of these theories to contemporary environmental problems, such as pollution, resource depletion, species extinction, and land use.</td>
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<tr>
<td>PHI 3700</td>
<td>Philosophy of Religion 6ACT (3) AS PHI</td>
<td>Analysis of religious experience and activity and examination of principal religious ideas in light of modern philosophy.</td>
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<tr>
<td>PHI 3930</td>
<td>Selected Topics (1-3) AS PHI</td>
<td>Selected topics according to the needs of the student.</td>
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<tr>
<td>PHI 4073</td>
<td>African Philosophy (3) AS PHI</td>
<td>A descriptive and analytical study of African philosophical thought, featuring reflective comparisons of African and Western categories of thought.</td>
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<tr>
<td>PHI 4300</td>
<td>Theory of Knowledge 6ACT (3) AS PHI</td>
<td>An examination of human knowledge; its scope and limits, and an evaluation of evidence, criteria of truth, the nature of belief, conditions for meaningfulness, theories of perception, and a study of memory and sense perception in the four major fields of nature, history, personal experience, and the a priori.</td>
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<tr>
<td>PHI 4320</td>
<td>Philosophy of Mind WRIN 6ACT (3) AS PHI</td>
<td>A study of historical and current issues in philosophy of mind, including the nature and status of mind, mind/body dualism, the relationship of mind and body, the problems of other minds, the physical basis for intelligence.</td>
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<tr>
<td>PHI 4632</td>
<td>Feminist Ethics (3) AS PHI</td>
<td>A study of the varied approaches to moral reasoning taken by feminist ethical writers such as Wollstonecraft, Mill, Gilligan, Daly, Hoagland and others.</td>
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<tr>
<td>PHI 4670</td>
<td>Contemporary Ethical Theory (3) AS PHI</td>
<td>A survey of contemporary ethical theory, focusing both on the literature about the status of ethical theorizing--moral skepticism, moral nihilism, narrative ethics--and on specific types of theories--</td>
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deontological theories, consequentialist theories, rights-based theories, virtue theories.

**PHI 4800 Aesthetics 6ACT (3) AS PHI**
A study of traditional and contemporary aesthetic theories with emphasis on creative process, the nature of the art work, the aesthetic response, expressiveness, form and content, as well as art and morality.

**PHI 4905 Directed Study (1-4) AS PHI**
Individual study directed by a faculty member.

**PHI 4930 Selected Topics (1-3) AS PHI**
Selected topics according to the needs of the senior students.

**PHI 4938 Philosophy Capstone Seminar CPST 6ACT (3) AS PHI**
Exit course for philosophy majors. Topics will vary at instructor's discretion, but are expected to span conventional boundaries between the branches of philosophical inquiry.

**PHI 5135 Symbolic Logic (3) AS PHI**
PR: PHI 2101
Study of topics such as the following: Metatheory of propositional and predicate logic, related metatheoretic results, alternative logic.

**PHI 5225 Philosophy of Language (3) AS PHI**
PR: Eight hours of philosophy
An examination of semantically, syntactical, and functional theories of language with special attention given to the problems of meaning, linguistic reference, syntactical form, and the relations between scientific languages and ordinary linguistic usage. Seminar format.

**PHI 5913 Research (1-4) AS PHI**
Individual research supervised by a faculty member.

**PHI 5934 Selected Topics (1-3) AS PHI**
Selected topics according to the needs of the student.

**PHM 3020 Philosophies of Love and Sex (3) AS PHI**
Discussion of Philosophies of Love/Sex of Plato, Aristotle, Epicurus, Aquinas, Hume, Kant, Schopenhauer, Russell, Sartre, Marx, etc.

**PHM 3100 Social Philosophy 6ACT (3) AS PHI**
An analysis of rival theories of social order and their philosophical foundations.

**PHM 3400 Introduction to Philosophy of Law (3) AS PHI**
A study of the fundamental concepts of law from a philosophical standpoint including crime, justice, punishment, free speech, insanity.

**PHM 4120 Major Black Thinkers (3) AS AFA**
Survey of major themes and issues in African/African-American intellectual and political thought with an emphasis on theories of nationalism. Works of individuals such as Martin Delany, Booker T. Washington, W. E. B. DuBois, Marcus Garvey, Malcolm X, and Angela Davis are considered.

**PHM 4331 Modern Political Philosophy WRIN 6ACT (3) AS PHI**
A survey of political philosophy from 1600 A.D. until 1900 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

**PHM 4340 Contemporary Political Philosophy 6ACT (3) AS PHI**
A survey of political philosophy in the twentieth century, including an examination of the ethical, metaphysical and epistemological bases of these philosophies.

**PHM 5126 Social Issues in Biomedical Ethics (3) AS PHI**
An examination of the social and political issues arising from rapid changes in medicine and technology. Topics covered may include social issues related to the just distribution of health care, reproductive technologies, HIV and AIDS, eugenics, genetic testing, and maternal-fetal relations.

**PHP 3786 Existentialism 6ACT (3) AS PHI**
A study of the religious and atheistic existentialists and the bearing of their views on religion, ethics, metaphysics, and theory of knowledge.

**PHP 4000 Plato 6ACT (3) AS PHI**
The examination of Plato will include the dialogues Protagoras, Georgias, Meno, Republic.

**PHP 4010 Aristotle 6ACT (3) AS PHI**
Study of Aristotle's philosophy.

**PHP 4410 Kant (3) AS PHI**
Lecture and discussion of Kant's philosophy, especially the Critique of Pure Reason.

**PHP 4784 Analytical Philosophy 6ACT (3) AS PHI**
A study of the method devoted to clarifying philosophical problems through analysis of the language in which these problems are stated.

**PHP 4788 Philosophy of Marxism 6ACT (3) AS PHI**
A critical survey of Marxist philosophy from Marx and Engels to Mao Tse-Tung and Herbert Marcuse. Hegelian foundations of Marxist philosophy analyzed in detail.

**PHY 2020 Conceptual Physics CANP (3) AS PHY**
A qualitative investigation of physics concepts. Emphasis is placed on using physics to describe how common things work. No previous physics knowledge required.

**PHY 2048 General Physics I - Calculus Based CANP (3) AS PHY**
PR: MAC 2281 or MAC 2311
First semester of a two-semester sequence of calculus-based General Physics which includes a study of mechanics, wave motion, sound, thermodynamics, geometrical and physical optics, electricity and magnetism) for students majoring in Physics, Chemistry and Engineering. General physics which includes a study of mechanics, heat, and fluids.

**PHY 2048L General Physics I Laboratory (1) AS PHY**
PR: MAC 2281 or MAC 2311.
CR: PHY 2048
First semester of a two-semester sequence of general physics (mechanics, wave motion, sound, thermodynamics, geometrical and physical optics, electricity, and magnetism) and laboratory for physics majors and engineering students.

**PHY 2049 General Physics II - Calculus Based**

**CANP** (3) AS PHY  
PR: MAC 2282 or MAC 2312, PHY 2048, PHY 2048L  
Second semester of calculus based general physics. Topics studied include wave mechanics, electricity and magnetism, and optics.

**PHY 2049L General Physics II Laboratory** (1) AS PHY  
PR: MAC 2282 or MAC 2312, PHY 2048, PHY 2048L.  
CPR: PHY 2049  
Second semester of general physics and laboratory for physics majors and engineering students.

**PHY 2053 General Physics I**

**CANP** (3) AS PHY  
PR: MAC 1140 and MAC 1114, or MAC 1147.  
CR: PHY 2053L  
First semester of a two semester sequence of non-calculus based general physics (mechanics, heat, wave motion, sound, electricity, magnetism, optics, modern physics) for science students.

**PHY 2053L General Physics I Laboratory** (1) AS PHY  
CR: PHY 2053  
First semester of a two semester sequence of general physics (mechanics, heat, wave motion, sound, electricity, magnetism, optics, modern physics) laboratory for science students.

**PHY 2054 General Physics II**

**CANP** (3) AS PHY  
PR: PHY 2053, PHY 2053L.  
CR: PHY 2054L  
Second semester of non-calculus based general physics. Topics studied include electricity and magnetism, optics and modern physics.

**PHY 2054L General Physics II Laboratory** (1) AS PHY  
PR: PHY 2053, PHY 2053L.  
CR: PHY 2054  
Second semester of general physics lab for science students.

**PHY 2060 Enriched General Physics I with Calculus**

**CANP** (3) AS PHY  
PR: MAC 2311 or MAC 2281 with minimum grade of 'A'  
CR: PHY 2048L  
First semester of an enriched sequence of calculus based general physics designed for physics majors and other students seeking a deeper understanding of mechanics, kinematics, conservation laws, central forces, harmonic motion, and mechanical waves.

**PHY 2061 Enriched General Physics II with Calculus** (3) AS PHY  
PR: MAC 2312 or MAC 2282 and PHY 2060 or PHY 2048 with a minimum grade of B  
CR: PHY 2049L  
Second semester of an enriched sequence of calculus based general physics designed for physics majors and other students seeking a deeper understanding of thermodynamics, electricity, magnetism, electromagnetic fields and waves, circuits, and optics.

**PHY 3101 Modern Physics**

**CANP** (3) AS PHY  
PR: PHY 2049, MAC 2283 or MAC 2313.  

**PHY 3220 Classical Mechanics**

**CANP** (4) AS PHY  
PR: PHY 3101 and PHZ 3113.  
Topics covered: Newtonian mechanics, oscillatory motion, gravitation, Lagrangian and Hamiltonian Dynamics, Central-Force Motion, Dynamics of a System of Particles, Dynamics of Rigid Bodies, and Non-linear and coupled oscillations.

**PHY 3221 Mechanics I**

**CANP** (3) AS PHY  
PR: PHY 3101 and PHZ 3113.  
First semester of a two-semester sequence. Review of vector algebra and vector calculus. Dynamics of single particles and systems of particles; central forces; rotation about an axis; statics; and virtual work.

**PHY 3323 Electricity and Magnetism I**

**CANP** (3) AS PHY  
PR: PHY 3101 and PHZ 3113.  
Electrostatic fields and potentials, dielectrics, classical conductivity, RC circuits, Fourier and finite element methods. First semester of sequence PHY 3323, PHY 4324.

**PHY 3822L Intermediate Laboratory**

**CANP** (3) AS PHY  
PR: PHY 3101.  
Experiments in modern physics, including the areas of atomic, nuclear, solid state and wave phenomena.

**PHY 4031 Great Themes in Physics**

**CANP** (6ACT) AS PHY  

**PHY 4151 Computational Physics**

**CANP** (3) AS PHY  
PR: PHY 3101.  

**PHY 4222 Mechanics II**

**CANP** (3) AS PHY  
PR: PHY 3221.  
Continuation of PHY 3221. Coupled oscillators and normal modes; moving coordinate systems; Lagrange's and Hamilton's equations; inertia tensor; general rotation of rigid bodies.

**PHY 4324 Electricity and Magnetism II**

**CANP** (3) AS PHY  
PR: PHY 3323.
Introduction to special relativity, magnetic fields and potentials, magnetic materials, RL and RLC circuits, Maxwell’s equations and applications.

**PHY 4424 Optics (3) AS PHY**
PR: PHY 3101
Reflection, refraction, dispersion, interference, diffraction and polarization.

**PHY 4523 Statistical Physics (3) AS PHY**
PR: PHY 3221 or PHY 3323 of PHY 4604.
Statistical approach to thermodynamics and kinetic theory and introduction to statistical mechanics.

**PHY 4604 Introduction to Quantum Mechanics (3) AS PHY**
PR: PHY 3101 and PHZ 3113.
Basic concepts of quantum mechanics with applications in atomic, nuclear, and condensed matter Physics.

**PHY 4605 Quantum Mechanics II (3) AS PHY**
PR: PHY 4604.
Second semester of a two-semester sequence in quantum mechanics. Focus given to applications of Schrodinger equation.

**PHY 4744C Introduction to Electronics and Test Instrumentation (3) AS PHY**
PR: PHY 3822L
Introduces the fundamentals of analog and digital electronics used in measurements and instrumentation. Weekly labs give hands-on experience in breadboarding electronic circuits and using test instrumentation (oscilloscopes, digital multimeters, etc.)

**PHY 4823L Advanced Laboratory (3) AS PHY**
PR: PHY 3822L.
Experimental work primarily related to modern physics. Emphasis on experimental techniques used in current research.

**PHY 4905 Independent Study (1-3) AS PHY**
Specialized, independent study determined by the student’s need and interest. The written contract required by the College of Arts and Sciences specifies the regulations governing independent study.

**PHY 4910 Undergraduate Research (1-4) AS PHY**
An individual investigation in the laboratory or library or both, under the supervision of the instructor. Credit hours and other contractual terms, are to be determined by student/instructor agreement.

**PHY 4930 Undergraduate Seminar (1) AS PHY**
All undergraduate physics majors must enroll in this course at least once. Regular attendance is required. This course introduces students to the research areas in the Physics Department.

**PHY 4935 Selected Topics in Physics (1-3) AS PHY**
Each topic is a course in directed study and under the supervision of a faculty member.

**PHY 5720C Electronics for Research (3) AS PHY**
A rigorous introduction to the fundamentals of analog and digital electronics. Theoretical circuit analysis and weekly labs introduce practical use of diodes, transistors, analog and digital Ics, breadboarding techniques and electronics test instrumentation. Spring Semester.

**PHY 5937 Selected Topics in Physics (1-4) AS PHY**
Each topic is a course in directed study under the supervision of a faculty member.

**PHZ 2102 Problems in General Physics I (1) AS PHY**
CR: PHY 2048 or PHY 2053.
First semester of a two-semester sequence on solving problems in General Physics I. A course designed to be taken with the lecture course and to help students with developing problem-solving skills.

**PHZ 2103 Problems in General Physics II (1) AS PHY**
CR: PHY 2049 or PHY 2054.
Second semester of a two-semester sequence on solving problems in General Physics II. A course designed to be taken with the lecture course and to help students with developing problem-solving skills.

**PHZ 3113 Mathematical Methods in Physics (3) AS PHY**
PR: PHY 2049
CPR: MAC 2283 or MAC 2313.
The course is designed to develop the basic mathematical skills required in subsequent courses in physics, as well as form the basis for a fundamental understanding of the mathematics needed for the study of physics.

**PHZ 4151C Computational Physics (3) AS PHY**
Introduction to computer applications in physics. Emphasis on numerical modeling and simulation of physics problems using linear algebra, differential equations and Monte Carlo methods. No prior programming experience required.

**PHZ 4434 Materials Physics (3) AS PHY**
PR: PHY 2048, PHY 2049, PHY 3101.
The physics and physical properties of materials. Strong emphasis is on the underlying physics of materials. Particular topics covered include crystal structure, phase, and electrical, thermal, optical, and magnetic properties of materials.

**PHZ 4702 Applications of Physics to Biology and Medicine I (4) AS PHY**
PR: PHY 2054, PHY 2054L or PHY 2049, PHY 2049L
The first semester of a two-semester sequence, to discuss the applications of the physical concepts introduced in the General Physics sequence to biological systems and for medical applications. Restricted to non-majors.

**PHZ 4703 Applications of Physics to Biology and Medicine II (4) AS PHY**
PR: PHY 2054, PHY 2054L or PHY 2049, PHY 2049L; PHY 2053
The second semester of a two-semester sequence, to discuss the applications of the
COURSE DESCRIPTIONS

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PHZ 5115 Methods of Theoretical Physics I (3) AS PHY
PR: MAP 2302 or PHZ 3113
Applications of mathematical techniques to classical and modern physics. Vector spaces including Hilbert space, orthogonal functions, generalized functions, Fourier analysis, transform calculus, and variational calculus.

PHZ 5116 Methods of Theoretical Physics II (3) AS PHY
PR: PHZ 5115
Applications of mathematical techniques to classical and modern physics. Selected topics in complex analysis, differential and integral equations, numerical methods, and probability theory.

PHZ 5154C Introduction to Computational Physics (3) AS PHY
Introduction to the use of computers for solving problems in physics. No programming experience required.

PHZ 5156C Computational Physics I (3) AS PHY
PR: COP 5016, PHZ 5154, PHZ 4151, or CI C or Fortran programming applied to science and engineering problems. Data analysis, numerical algorithms, modeling, parallel computation. Subjects: neurobiology, quantum magnetism, chaos, etc. Familiarity with programming in a compiled language assumed.

PHZ 5405 Solid State Physics I (3) AS PHY
PR: PHY 4605 or PHY 6645
Crystal structure, x-ray and electron diffraction, mechanical and thermal properties of solids, electrical and magnetic properties of metals, band theory of metals, insulators, and semiconductors.
First semester of sequence PHZ 5405, PHZ 6426.

PHZ 5430 Introductory Physics of Materials (3) AS PHY
Phenomenological introduction to the structural, thermal, electrical, magnetic, mechanical, and optical properties of materials.

POR 1120 Beginning Portuguese I (4) AS WLE
Development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

POR 1121 Beginning Portuguese II (4) AS WLE
PR: POR 1120 or equivalent
Continued development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

POR 2200 Intermediate Portuguese I (3) AS WLE
POR 2200 builds upon the four language skills (speaking, comprehension, reading, and writing) introduced in POR 1120 and POR 1121.

POR 2201 Intermediate Portuguese II (3) AS WLE
For language students who intend to attain basic proficiency.

POR 3010 Accelerated Portuguese (4) AS WLE
Accelerated Portuguese course (structure and vocabulary as spoken in Brazil) for speakers of Spanish or other Romance languages. Exposes students to some aspects of Portuguese speaking cultures.

POR 4905 Directed Study (1-5) AS WLE
Course permits study options in Portuguese not available in the regularly scheduled curriculum at departmental discretion. May be repeated up to 10 hours. S/U Only. Departmental approval required.

POR 4930 Selected Topics (1-3) AS WLE
Course permits study options in Portuguese not available in the regularly scheduled curriculum at departmental discretion. May be repeated up to 10 credit hours. Departmental approval required.

POS 2041 American National Government CASB
HHCP (3) AS GIA
This course is intended to introduce students to the theory, institutions, and processes of American government and politics. In addition to learning fundamental information about the American political system, this course is designed to help students think critically about American government and politics.

POS 2080 The American Political Tradition (3) AS GIA
This course is an introductory survey of the historical developments and changes in American political institutions, processes, and thought.

POS 2112 State and Local Government and Politics (3) AS GIA
Analysis of the structure and function of state and local governments, of the social and political influences that shape them, and of the dynamics of their administrative processes.

POS 3142 Introduction to Urban Politics and Government (3) AS GIA
Governmental and political structures and processes as they function in urban areas, with special focus on municipalities and locally based public services.

POS 3173 Southern Politics (3) AS GIA
Examine changes in electoral politics in the South, and the role of interest groups and the state and federal government in facilitating change.

POS 3182 Florida Politics and Government (3) AS GIA
A study of Florida political culture, political parties and elections, the legislative, executive, and judicial systems, and policy patterns.

POS 3273 Practical Politics (3) AS GIA
Coordinated scholarly and practical activity through class lecture and supervised field work in local political parties and election campaigns.

POS 3283 Judicial Process and Politics (3) AS GIA
The organization, development, and functioning of American court systems and the causes and consequences of judicial behavior from an empirical perspective.
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POS 3453 Political Parties and Interest Groups (3) AS GIA
Analysis and understanding of role, functions, structure, and composition of such, and their impact on American governmental institutions.

POS 3691 Introduction to Law and Politics (3) AS GIA
Nature of law, legal process, relationship to political life of constitutional law, administrative law, the judicial process, and private law.

POS 3697 Environmental Law (3) AS GIA
Examines some of the major issues involving environmental law. Specially, the course provides a survey and analysis of statutes, both state and federal, regulating water, air, soil pollution, and resource conservation and recovery. It will also address questions pertaining to problems of implementation, interpretation, enforcement, and development of environmental laws.

POS 3713 Empirical Political Analysis (3) AS GIA
Fundamentals of empirical political inquiry: systematic data collection and quantitative analysis techniques. Laboratory exercises using the computer are required.

POS 3931 Selected Topics (3) AS GIA
Selected topics in political science with course content based upon student demand and instructor's interest.

POS 4024 Political Behavior, Public Opinion, and Elections (3) AS GIA
Analysis of economic and socio-psychological factors influencing mass and elite political behavior; voting behavior, public opinion, and political activism.

POS 4413 The American Presidency 6ACT (3) AS GIA
The presidency as a political institution; analysis of powers; legislative, administrative, political, and foreign policy leadership; crisis management and decision making; White House staffing; limits on power.

POS 4424 The American Congress (3) AS GIA
Organization, procedures, committee system, party leadership, relations with governmental and non-governmental organizations and agencies, oversight, decision-making processes, House/Senate comparisons.

POS 4614 Constitutional Law I (3) AS GIA
PR: POS 2041.
Leading social problems, principle institutions, and the scope of powers. Analysis of Supreme Court decisions, scholarly commentaries, and the writings of leading public figures.

POS 4624 Constitutional Law II (3) AS GIA
PR: POS 2041.
Analysis of Supreme Court decisions and scholarly commentaries on the constitutional rights of individuals.

POS 4693 Women and Law I (3) AS WST
Introduction to issues concerning the legal aspects of sex and sex-based discrimination as embodied in statutory and case law, focusing on constitutional and family law and reproductive freedom issues.

POS 4694 Women and Law II 6ACT (3) AS WST
PR: POS 4693
Legal position of women in American society and remedies available to challenge current laws and practices, with specific emphasis on employment and education issues as they relate to both women and men.

POS 4905 Independent Study (1-3) AS GIA
Specialized study determined by the student's needs and interests.

POS 4910 Individual Research (1-3) AS GIA
Investigation of some aspect of political science culminating in the preparation of an original research paper.

POS 4936 Senior Seminar (3) AS GIA
An opportunity to work with others in a seminar format, exploring specialized topics.

POS 4941 Field Work (3-15) AS GIA
Opportunity for students to obtain practical experience as aides to agencies of government and political parties.

POS 4970 Honor Thesis (3) AS GIA
Writing of honor thesis under direction of faculty members.

POS 5159 Urban Policy Analysis (3) AS GIA
Application of policy framework for urban government & policies. Examine forms of government and how policies such as economic development, law enforcement, community policing, neighborhood policies (with non-profit groups) can be analyzed.

POT 3003 Introduction to Political Theory (3) AS GIA
Examines various kinds of theory used in political science for understanding political life: normative theory, empirical theory, historicism theory, analytical theory, and critical theory.

POT 3013 Classical Political Theory (3) AS GIA
Analysis of basic ideas of Plato, Aristotle, Cicero, St. Thomas, and other leading pre-modern political philosophers.

POT 4054 Modern Political Theory (3) AS GIA
Analysis of basic political ideas of Machiavelli, Hobbes, Locke, Rousseau, Burke, and other modern philosophers.

POT 4064 Contemporary Political Thought (3) AS GIA
Examines various political views and political phenomena in the nineteenth and twentieth centuries. Diverse theoretical types and salient political phenomena will be presented.

POT 4109 Politics and Literature 6ACT (3) AS GIA
Critical examination of the connections between politics and literature.

POT 4204 American Political Thought (3) AS GIA
Examines political writings in the U.S. and responses to critical periods in history, beginning with the Founding Fathers, and culminating in...
recent contributions and understanding of contemporary political problems and solutions.

PSY 4936 Selected Topics in Political Theory (3) AS GIA
Selected topics or thinkers in political theory.

PPE 4003 Personality (3) AS PSY
PR: PSY 3213 with a grade of C or better
Methods and findings of personality theories and an evaluation of constitutional, biosocial, and psychological determinants of personality.

PSB 3444 Drugs and Behavior (3) AS PSY
This is a basic introduction to drugs and their effects on society and behavior. Specifically, drug regulations and laws will be covered as well as how drugs interact with the brain to alter consciousness.

PSB 4004C Physiological Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
Gross neural and physiological components of behavior. Structure and function of the central nervous system and theory of brain functions.

PSC 2515 Energy and Humanity CANP (3) AS PHY
Explores energy use and its environmental impacts, including climate change. Energy resources, including alternatives to fossil fuels, are discussed. Basic science concepts as well as contemporary technologies are covered.

PSY 2012 Introduction to Psychological Science CASB (3) AS PSY
This course is an introduction to psychology for majors and nonmajors. It presents psychological theory and methods in a survey of various areas of psychology including clinical, cognitive, developmental, health, industrial, social and biopsychology.

PSY 3017 Psychological Science II (3) AS PSY
PR: PSY 2012
Designed as an in-depth examination of the basic principles and concepts of psychological science. Extensive coverage will be given to the areas of learning, perception, physiological psychology, and cognition.

PSY 3204 Psychological Statistics CAQR 6AMT (3) AS PSY
PR: PSY 2012
Introduction to analyzing psychological data, in the context of behavioral research. Covers basic research design, descriptive statistics, analysis procedures, use of computer analysis packages, interpretation of outputs, and implications for research.

PSY 3213 Research Methods in Psychology (4) AS PSY
PR: PSY 3204 or STA 2023 or STA 2122 or QMB 2100, with a grade of C or better.
This course considers the logic of experimental design, concept of control and the analysis of experimentally obtained data. The laboratory section provides experience applying the concepts discussed in lecture. Two lectures plus two-hour lab.

PSY 4205 Experimental Design and Analysis (3) AS PSY
PR: PSY 3213 with grade of C or better
Detailed coverage of those research designs and statistical techniques having the greatest utility for research problems in psychology. Emphasis on topics from analysis of variance.

PSY 4215 Discovering Research in Psychology CPST (3) AS PSY
PR: PSY 3213 (with grade of C+ or better)
This course involves advanced study of approaches to research in psychology and development of various research skills as preparation for conducting independent research.

PSY 4604 History and Systems of Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
The historical roots of modern psychological theories, investigation of the various schools of psychology such as behaviorism, Gestalt psychology, psychoanalysis, and phenomenological psychology.

PSY 4913 Directed Study (1-3) AS PSY
PR: PSY 3213.
The student plans and conducts an individual research project or program of directed readings under the supervision of a faculty member. S/U only.

PSY 4931 Selected Topics: Seminar (3) AS PSY
PR: PSY 3213 with a grade of C or better
Graduate-type seminar designed to provide the advanced undergraduate student with an in-depth understanding of a selected sub-area within psychology.

PSY 4932 Honors Seminar CPST (3) AS PSY
PR: PSY 3213 with a grade of C or better
The student, under supervision of a faculty member, will complete a thesis project.

PSY 4933 Advanced Topics in Applied Behavior Analysis (3) AS PSY
PR: EXP 4404 and CLP 4414.
Advanced seminar in the effective and ethical application of behavior analysis to human problems. Includes theoretical and conceptual issues; assessment and treatment procedures; legal, ethical and socio-cultural issues.

PSY 4970 Honors Thesis (1-3) AS PSY
PR: PSY 3213 with a grade of C or better
The student, under supervision of a faculty member, will complete a thesis project.

PSY 4974 Honors Seminar in Psychology - Second Semester WRIN 6ACT (3) AS PSY
PR: PSY 4932
Honors Seminar in Psychology (Second Semester) provides students who successfully complete the first semester of Honors Seminar in Psychology the opportunity to conduct, analyze, write up and defend their thesis.

PUP 4002 Public Policy (3) AS GIA
COURSE DESCRIPTIONS

Examines the formation and implementation of public policy in areas such as the economy, health, etc.

PUP 4203 Environmental Politics and Policy (3) AS GIA
Examines the politics of environmental issues, formation and implementation of environmental policy.

PUP 4323 Women and Politics 6ACT (3) AS WST
An analysis of the impact of gender on power and influence in American society, and women's changing role in the political process.

PUP 5607 Public Policy and Health Care (3) AS GIA
The study of health care policy as it relates to the policy process in the American setting.

PUR 3000 Principles of Public Relations (3) AS MCM
PR: MMC 2100 and MMC 3602.
The underlying theory and professional practice of public relations within corporate and institutional structures and its vital role in society; ethical standards of practice, and relationships of the practice to the public media; public relations problem-solving process.

PUR 3500 Public Relations Research (3) AS MCM
PR: PUR 3000 and LIS 2005.
The theory and practice of quantitative and qualitative research methods as applicable to the study of public relations and public relations campaigns. Emphasis is on the scope of research methods available to public relations practitioners, evaluation of data and report writing.

PUR 4100 Writing For Public Relations (3) AS MCM
PR: JOU 2100 and PUR 3000.
Techniques for creating effective written public relations communications to achieve organizational goals, including news releases, proposal letters, broadcast scripts, and memos. Exercises based on case study scenarios.

PUR 4101 Public Relations Design and Production (3) AS MCM
PR: PUR 3000.
Theoretical and practical applications of design for public relations publications. Design software. Study of visual design, page architecture, typography, color and illustrations. Integration of design elements in the design of different types of public relations publications.

PUR 4401 Public Relations: Issues, Practices and Problems GCPC (3) AS MCM
PR: PUR 3000.
The theory of public relations practice and its application in the real world. The role of the public relations practitioner in business, government, and social institutions, and the nature of specialized areas of the practice. Identification of public issues, analysis of potential impact on organizations and development of strategies to deal with them successfully and responsibly. Communication techniques and trends.

PUR 4700 Public Relations Practicum (1) AS MCM
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

PUR 4801 Advanced Public Relations (3) AS MCM
PR: PUR 3500, PUR 4100 and PUR 4401
As final course in Public Relations sequence, it involves intensive study of counseling and problem-solving techniques used in professional practice. Analysis of case studies and preparation of complete Public Relations program. Extensive reading in the literature of contemporary practice.

PUR 5505 Introduction to Strategic Communication Theory and Practice (3) AS MCM
The course is designed to act as a "bridge" between undergraduate and graduate public relations and advertising education, and between professional communication practices and strategic communication scholarship.

QMB 2100 Business and Economic Statistics I CAQR 6AMT (3) BA QMB
PR: MAC 1105.
Data description; exploratory data analysis; introduction to probability; binomial and normal distributions; sampling distributions; estimation with confidence intervals; tests of hypotheses; control charts for quality improvement.

QMB 3200 Business and Economic Statistics II (3) BA QMB
PR: MAC 2233 or MAC 2241, QMB 2100.
Simple linear regression and correlation; multiple regression and model building; forecasting models; analysis of variance; chi-square tests; nonparametric methods.

QMB 3253 Business Honors Advanced Statistics CAQR 6AMT (3) BA QMB
Comprehensive course in statistics for Business Honors students. Includes the application of statistical concepts to business problems.

QMB 3701 Computational Methods in Business (3) BA QMB
PR: QMB 3253, with a grade of C or (QMB 2100 and QMB 3200, with a grade of C)
Introduces Algorithms and Computational Thinking, Linear Programming, Data Analytics, and Game theory used in business decision making; extensive computer-based methods and analysis employed. Restricted to Business Honors students, not repeatable.

RCS 4033 Overview of Rehab & MH Counseling Professions (3) BC REH
This course introduces students to the human services and multiple counseling professions, including, rehabilitation and mental health counseling, career/vocational counseling, forensic
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REA 2105 Critical Reading and Writing 6ACT (3) US RLS
This course helps students develop the fundamentals of reflective and critical reading and on effective analytical writing utilizing multiple sources from various disciplines. The course meets the criteria for Gordon Rule writing requirements.

REA 2505 Vocabulary (3) AS ENG
A practical course in rapid vocabulary improvement for students in all areas. Stress is on words in context. Will not count toward the English major.

REA 2604 Strategic Learning (1) US RLS
For students in academic difficulty, this course introduces students to advanced learning systems used to understand individual learning preferences, analyze task demands, and then intentionally select effective strategies for each learning challenge.

REA 2930 Selected Topics (1-3) US RLS
Topics will vary to meet the needs of students. Will not be counted toward the English major.

RED 4310 Reading and Learning to Read (3) ED TAL
This course will prepare pre-service teachers to understand the foundations of reading and the inherent learning principles to produce successful readers. The course focuses on appropriate instructional strategies to enhance reading development and reading across the curriculum.

RED 4312 Emergent Literacy Strategies and Assessment (3) ED TAL
The purpose of this course is to create an understanding of developmentally appropriate, research-based theories and practices that support young children's emergent literacy and language learning.

RED 4335 Teaching Reading in Secondary English Curriculum (3) ED TAL
Analysis of the reading process; introduction to diagnosis of reading abilities; reading and study skill strategies to increase student achievement in reading.

RED 4511 Linking Literacy Assessment to Instruction (3) ED TAL
PR: RED 4310.
This course will prepare pre-service teachers to use multiple assessment measures to assess and diagnose students’ strengths and needs in literacy learning. Based on individual student profiles, teachers will design instruction to enhance literacy development.

RED 4724 Intermediate Literacy Strategies and Assessment I (3) ED TAL
PR: RED 4312.
The purpose of this course is to create an understanding of developmentally appropriate, research-based theories and practices that support children's literacy learning in the intermediate grade levels.

REE 3043 Real Estate Decision Making (3) BA FIN
PR: FIN 3403, with a grade of C
Acquaints students with the range of knowledge required to engage in real estate decision-making in the United States. Integrates the institutional framework with which decisions are made, the elements of financial analysis, deal structuring and marketing, and the pricing, financing, and allocation of real property in the real estate markets.

**REL 2166 Introduction to Religion and Ecology**
CAHU HHCP (3) AS REL

This course introduces students to the academic study of religion with a focus on the relationship between religion and ecology, and the developing subfield of Religious Studies concerned with this relationship.

**REL 2210 Hebrew Bible/Old Testament (3) AS REL**

An introduction to the critical study of the Hebrew Scriptures against the background of the ancient Near East, with attention to the history and religion of the Hebrew people.

**REL 2240 Introduction to the New Testament (3) AS REL**

An introduction to the critical study of the New Testament in the context of Christian beginnings in the first century C.E. This will include readings from the Apocrypha, other Gospels, and letters.

**REL 2300 Introduction to World Religions CAGC HHCP (3) AS REL**

Introduction to World Religions is designed to give students a broad and general overview of the major religious traditions of the world. Students will be exposed to the history, primary beliefs, and information necessary for a primary understanding of each of the religions studied in the course.

**REL 2306 Contemporary World Religions (3) AS REL**

This course will explore the unity and diversity of religious traditions in our contemporary global context in order to understand the mutual interactions between religions and cultures. Emphasis will be placed on the role of religions in shaping human values which can either create or resolve social conflicts, and the impact these values can have on issues of race, ethnicity and religious diversity in a multicultural world.

**REL 3040 Introduction to Religious Studies (3) AS REL**

This course introduces students to the academic study of religion. Religious thought and behavior are examined from a variety of methodological perspectives. Restricted to majors and minors. Required for the major and the minor in Religious Studies.

**REL 3043 Introduction to Major Religious Texts (3) AS REL**

The course provides an introduction to the study of some of the foundational texts of selected religious traditions by focusing on reading and interpretative strategies in order to understand the central beliefs and practices presented in these texts.

**REL 3101 Religion and Popular Culture (3) AS REL**

An exploration and analysis of the relationship between religion and popular culture, which will include inquiry into the definition and meaning of both religion and popular culture, the impact of secularization on traditional religious systems, and the widely diverse expressions of religion in contemporary popular culture.

**REL 3111 The Religious Quest in Contemporary Films CAHU 6ACT (3) AS REL**

This course uses contemporary films such as Gandhi, Malcolm X, The Long Walk Home, The Chosen, and Grand Canyon to explore the personal and social aspects of religion in modern secular societies, pinpointing issues of racism, sexism, liberation, etc.

**REL 3114 Comedy, Tragedy, and Religion 6ACT (3) AS REL**

Examines the visions of life in comedy and tragedy, and relates both to Judaism, Christianity, and Zen Buddhism.

**REL 3116 Religion and Contemporary American Holidays (3) AS REL**

Introduces students to the academic study of religion through an exploration of issues and questions related to the character and function of holidays in contemporary America. Open to majors and non-majors.

**REL 3117 Religion and Contemporary American Sports (3) AS REL**

This course explores the function of sports in America. It covers the history of sports; the status of American sports; and sports as religious events. The course is open to majors and non-majors and is not repeatable for credit.

**REL 3120 Religion in America (3) AS REL**

To examine the movement from state church to pluralism in American religious institutions, the religious results of non-Protestant immigration; the Jewish factor; the effect of home missions and social concern programs upon American life; political entanglements and the concept of church/state separation.

**REL 3131 New Religions in America CAGC HHCP (3) AS REL**

This course entitled New Religions in America is designed to give students an overview of the rich religious history of America particularly in regard to the unique cultivation of new religious movements in America spanning from 1850 – the present.

**REL 3132 Witchcraft and Paganism in America (3) AS REL**

A study of contemporary witchcraft and paganism, including theories, methods, history, myths and symbols, beliefs, rituals and practices, believers, recruitment, socialization, and organizations.

**REL 3140 Religion, Culture, and Society (3) AS REL**
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REL 3145 In Search of the Goddess (3) AS REL
This course explores Goddess religion/sacred Feminine, from prehistory, to the pagan Near East and Mediterranean, Western monotheistic religions, pluralistic religions of the East, and revivals of Goddess spirituality in contemporary Europe/N. America.

REL 3146 Women and Religion 6ACT (3) AS REL
Analysis of the status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues of feminist theology, and the controversies surrounding them.

REL 3170 Religion, Ethics and Society Through Film 6ACT (3) AS REL
An ethical analysis of contemporary social issues through contemporary films such as Wall Street and Crimes and Misdemeanors, drawing on religious narrative traditions from Eastern and Western cultures which have contributed to the development of an ethic of human dignity, human rights and human liberation after Auschwitz and Hiroshima.

REL 3191 Life After Death (3) AS REL
An exploration of ideas about life after death and its relations to this life in Judaism, Christianity, Islam, Hinduism, and Buddhism.

REL 3280 Biblical Archaeology (3) AS REL
An in depth examination of the archaeological data relating to the background and content of the Bible, including ancient customs, Biblical sites and cities, Biblical history, and material culture of the Biblical period. Special attention will also be given to excavation methods and interpretation of archaeological evidence.

REL 3303 Comparative Religion: Judaism and Islam (3) AS REL
This course is framed within the academic study of religion, and it does not concern itself with contemporary political difference in the Middle East. It treats as Islam the normative statements of the Quaran and related traditions, and as Judaism the authoritative statements of the Torah, oral and written.

REL 3308 World Religions 6ACT GCPC (3) AS REL
World Religions gives students an overview of the major religions of the world from their origins through the modern period. Special attention is given to the analysis of myths, rituals, history, and other features of the religions.

REL 3318 Introduction to Chinese Religion (3) AS REL
The course is for majors and nonmajors, and may not be repeated for credit. The course introduces the history and present state of the religious thoughts and practices in mainland China and the geographical areas in which the Chinese language is spoken.

REL 3330 Religions of South Asia (3) AS REL
All religions of the world came to India and all became Indian. What is this "Indianness" which stems from Hinduism, Buddhism, Jainism and Sikhism, but extended itself to include Judaism, Christianity, Islam, Zoroastrianism and Baha'is. Readings from classical texts and modern literature.

REL 3335 Gods and Goddesses of India (3) AS REL
This course explores the ways Hindus see, speak about, and encounter the Divine through an examination of the multitude of stories about the gods and goddesses and their various physical manifestations in the sacred geography of India.

REL 3340 Buddhism Truths and Paths (3) AS REL
This course introduces the basic elements of Buddhist religion from its inception through today by focusing on the life and teachings of the historical Buddha, doctrinal development, the various denominations, and canon formation.

REL 3363 Introduction to Islam (3) AS REL
This course introduces the basic elements of Islamic belief and practice, placing the rise of Islam in its historical context in the Middle East, and stressing issues of diversity (including ethnicity and gender).

REL 3367 Islam in the Modern World 6ACT (3) AS REL
Examines the major developments in Islamic thought since the 13th century, with emphasis on the 19th and 20th century Islamic resurgence. Issues of diversity, gender, and social values will be stressed.

REL 3375 Issues in Caribbean Religions CPST (3) AS REL
The course examines major social, political, economic, and cultural issues in Caribbean religions mainly in Jamaica, Cuba, Haiti, and Trinidad. Issues reflected in African diasporan religions and encounters with Western and Eastern ones are studied.

REL 3380 Native American Religions (3) AS REL
Introduction to and survey of Native American Religions. A variety of multiplicity of perspectives, including anthropological, historical, social psychological, sociological, and philosophical.

REL 3420 Contemporary Religious Thought (3) AS REL
An examination of the central ideas of recent religious thinkers: such as Gandhi, Martin Luther King, Jr., Elie Wiesel, Thich Nhat Hanh, Dorothy Day, Dorothee Soelle, Howard Thurman, Thomas Merton and others.

REL 3444 Womanist Vision in Religion (3) AS REL
This course examines the works of Black Womanist writers in religion for their contributions to and insights into the phenomena of religion in America and the world.
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REL 3465 Religion and the Meaning of Life 6ACT (3) AS REL
What is the meaning of life? An exploration of answers to this question in Eastern and Western religions, and in humanistic philosophies of life.

REL 3500 History of Christianity 6ACT GCPC (3) AS REL
Historical development of Western Christianity, its ideas and institutions, from the first century to the rise of religious modernism in the 19th century.

REL 3505 Introduction to Christianity (3) AS REL
Introduction to fundamental elements of Christianity, including: foundational texts and core beliefs; the background and historical development of Christian thought; the expression of the religion throughout culture; Christianity as a global religion.

REL 3561 Roman Catholicism 6ACT (3) AS REL
An examination of the history, doctrine, and ethics of the Roman Catholic Church.

REL 3602 Classics of Judaism 6ACT (3) AS REL
PR: One course in Religious Studies.
How to read the principal documents of Judaism beyond the Hebrew Bible, including the Mishnah, Talmud, Midrash, and classics of philosophy, mysticism, and theology through the modern period.

REL 3607 Introduction to Judaism 6ACT GCPC (3) AS REL
An introduction to Judaism: its religious tenets; its rites and customs. This course is intended as a description of what it means to be a Jew.

REL 3611 History of Judaism (3) AS REL
A study of the evolution of the religion of ancient Israel from the Second Temple period to the end of the second century C.E., seen against the background of its historical, geographical, political, social and spiritual setting.

REL 3613 Modern Judaism 6ACT (3) AS REL
A study of modern Jewish life and thought in the West, including the study of beliefs, practices, institutions, major thinkers, and intellectual trends.

REL 3900 Directed Readings (1-4) AS REL
Individual guidance in concentrated reading on a selected topic.

REL 3936 Selected Topics (1-3) AS REL
Course contents depend on students' needs.

REL 4108 Religion and Food GCPC (3) AS REL
Course applies categories in the academic study of religion (symbol, myth, ethics, community, ultimate power, and so on) to food. Considers how religion and ecology relate and have related historically.

REL 4113 Mormonism in America (3) AS REL
A study of Mormonism in America as an example of a new religion. Includes the study of history, myths and symbols, texts, beliefs, rituals and practices, believers, recruitment, socialization, and organizations.

REL 4171 Contemporary Christian Ethics 6ACT (3) AS REL
A survey of representative approaches to contemporary Christian ethics and their application to a number of ethical issues peculiar to personal and social life in contemporary society, with an emphasis on issues of race and gender and of violence and non-violence.

REL 4177 Comparative Religious Ethics 6ACT (3) AS REL
A comparative study of religious ethics emphasizing how 20th century social activists, such as Ghandi and M. L. King Jr. and eco-feminists such as Rosemary Ruether and Joanna Macy, have drawn upon and transformed traditional religious stories and spiritual practices in order to create a cross-cultural and inter-religious ethic for a multi-cultural world.

REL 4188 Religion and Ecology Seminar (3) AS REL
Course applies categories in the academic study of religion (symbol, myth, ethics, community, ultimate power, and so on) to ecology. Considers how religion and ecology relate and have related historically.

REL 4193 Comparative Mysticism (3) AS REL
A course designed to acquaint the student with the nature of mystical experience, and some of the varieties of mystical experience recorded in the writings of the mystics, East and West.

REL 4213 Early Jewish Literature CPST 6ACT (3) AS REL
This course undertakes close readings of a wide range of early Jewish texts to better understand the role of scripture in the ancient world and to gain insight into the cultural and religious world from which rabbinc Judaism and Christianity emerged.

REL 4215 Ancient Israel and the Development of the Hebrew Bible 6ACT (3) AS REL
An exploration of the formation and composition of the Hebrew Bible in light of the religious, social, political, and historical developments in antiquity.

REL 4216 Who Wrote the Bible (Genesis-Kings) 6ACT (3) AS REL
A critical examination of Genesis through 2 Kings. This course focuses on the history of the formation of the text and the development of the religious traditions represented therein. Special attention will be paid to Israelite Law, Covenant Theology, and the history of the religion(s) of the Children of Israel in their Ancient Near Eastern context.
REL 4245 New Testament I: Gospels, Acts (3) AS REL
An exploration of the Gospels and Acts, including their backgrounds in Judaism and Greco-Roman religion, literary and form criticism, historical Jesus research, and the social history of earliest Christianity.

REL 4250 Jesus’ Life and Teachings (3) AS REL
An examination of the various historical studies made in the quest of identifying Jesus as an historical figure. The concern is to make a reasonable assessment of who Jesus was and what he was saying to the Jews in Palestine at the beginning of the common era.

REL 4252 New Testament II: Pauline Letters (3) AS REL

REL 4291 Women and the Bible 6ACT (3) AS REL
How the redactors of Genesis through 2 Kings viewed women; the role women played in the society of the time in which they are portrayed and in that of the redactors; and, an attempt to find the “women’s voices,” however muted, within the biblical text.

REL 4333 Hindu Texts and Contexts (3) AS REL
PR: REL 3330 or similar course focusing on Hinduism
An in-depth of the classical texts of the Hindu Tradition. We will examine religious, philosophical, ethical, ritual, and mythological themes presented in these texts in order to gain a deeper understanding to the larger tradition we call “Hinduism”.

REL 4499 Classics of Christian Thought WRIN 6ACT (3) AS REL
This course is designed to introduce students to some of the “greatest hits” of Christian thought from the fourth century through the nineteenth. Students will be exposed to formative works from the patristic, medieval, Reformation and modern era.

REL 4566 Old Order Anabaptists (3) AS REL
Explores and compares the sectarian character of Old Order Anabaptists, focusing on Hutterites, Amish, Mennonites, and Brethren.

REL 4910 Undergraduate Research (1-4) AS REL
Individual investigations with faculty supervision.

REL 4911 Undergraduate Research (1-4) AS REL
Individual investigations with faculty supervision.

REL 4931 Seminar in Religion WRIN 6ACT (3) AS REL
PR: REL 3003 and REL 3014
A course required for Religious Studies majors and minors, whose prior religious studies have prepared them for a cooperative creative and/or research effort in the area of religion.

REL 4936 Selected Topics (1-3) AS REL
Individual investigations with faculty supervision.

REL 4937 Selected Topics: Fall Honors Seminar (3) AS REL
The course content will depend upon student demand and instructor’s interest.

REL 4938 Selected Topics: Spring Honors Seminar (2) AS REL
The course content will depend upon student demand and instructor’s interest.

REL 4939 The Development of Religious Studies (3) AS REL
Course designed for senior majors and minors in religious studies. Discussion of key figures and methodological advances in the development of the field from the 18th century to present, with readings of classics in the development.

RTV 4321 Electronic Field Production (3) AS MCM
PR: RTV 4304
Advanced producing, scripting, lighting, camera, and editing for video and news production. Introduction to computer editing and graphics.

RTV 4304 TV News (3) AS MCM
PR: RTV 4321
Advanced television reporting, integrating broadcast news writing, ENG production and television performance.

RTV 4306 TV News (3) AS MCM
PR: RTV 4321
Advanced producing, scripting, lighting, camera, and editing for video and news production. Introduction to computer editing and graphics.

RTV 4500 Telecommunications Programming and Management (3) AS MCM
PR: RTV 3001.
Program and management concepts, resources, costs, selection, and scheduling. Analysis of
### COURSE DESCRIPTIONS

**RUS 4905 Directed Study (1)**

A directed study in Russian language, literature, or culture. PR: Consent of instructor.

**RUS 4900 Selected Topics (1)**

A course in an area of Russian literature, language, or culture that is not regularly offered. PR: Consent of instructor.

**RUS 4241**

Russian Language & Culture through Film II (3) AS WLE

Review and development of skills in conversation, composition, and reading.

**RUS 3500 Russian Civilization 6ACT (3) AS WLE**

A survey of the cultural history of Russia.

**RUS 4240 Russian Language & Culture through Film II (3) AS WLE**

PR: RUS 3240 or equivalent.

Development of conversational skills.

**RUS 4900 Selected Topics (1-3) AS WLE**

Study of an author, movement or theme.

**RUS 4905 Directed Study (1-3) AS WLE**

**RUT 3111 Twentieth-Century Russian Literature in English CPST WRIN 6ACT (3) AS WLE**

Survey of the authors of 20th Century Russian literature in English. Major works of Babel, Bulgakov, Olesha, Pasternak, Solzhenitsyn, and Zamyatin.

**SCE 3941 Practicum I: Middle School Science Education (1-3) ED TAL**

1. The candidate will spend six hours a week in an assigned school, becoming acquainted with the middle grades classroom, and providing supervised one-on-one, small group and whole group instruction and will attend university seminars.

**SCE 3942 Practicum II: Middle School Science Education (1-3) ED TAL**

Candidates will spend nine hours a week in an assigned school, in a grade level or subject area other than the one completed in Practicum I, providing supervised one-on-one, small group, and whole group instruction, and will attend university seminars.

**SCE 4305 Communication Skills in the Science Classroom (3) ED TAL**

Reading and communication skills important in understanding scientific and science education literature and communicating findings to others.

**SCE 4310 Teaching Elementary School Science (3) ED TAL**

Techniques and materials for teaching science in the elementary school.

**SCE 4320 Teaching Methods in Middle Grade Science I (3) ED TAL**

CR: EDM 3403, SCE 3941 and SCE 3942

The purpose of this course for education majors is to develop pedagogical content knowledge as it pertains to the teaching and learning of science, concentrating on skills and strategies necessary to teach science at the middle school level.

**SCE 4330 Methods of Secondary Science Education (3) ED TAL**

The purpose of this course for science education majors is to develop pedagogical content knowledge as it pertains to the teaching and learning of science in grades 6-12.

**SCE 4863 Science, Technology, Society Interaction 6ACT GCPC (3) ED TAL**

Achieve an historical and philosophical understanding of (1) the nature of the scientific enterprise: interaction of science, technology, and society (STS), (2) how to teach STS including the use of computers and related technologies, and (3) intricacies of sample STS topics.

**SCE 4936 Senior Seminar in Science Education CPST (3) ED TAL**

CR: SCE 4940.

Synthesis of teacher candidate's courses in complete college program.

**SCE 4940 Internship: Science Education (1-12) ED TAL**

CR: SCE 4936.
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One full semester of internship in a public or private school.

SCE 4941 Internship I: Middle School Science Education (1-12) ED TAL
1. Candidates will spend each day of the semester in an assigned school implementing acquired knowledge from Practicum I and II, with increased responsibility for planning instruction and assessing student learning, and will attend internship seminars.

SCE 4942 Internship II: Middle School Science Education (1-12) ED TAL
Internship II is a continuation of Internship I. Candidates will spend each day of the semester co-teaching in the same school, with responsibility for planning instruction and assessing impact on student learning, and will attend internship seminars.

SCE 4943 Practicum in Secondary Science Education (3) ED TAL
CR: SCE 4320. This practicum provides students majoring in biology, chemistry or physics education with structured field experiences in science classrooms at the secondary school level. Restricted to majors and non-repeatable for credit.

SCE 5325 Methods of Middle Grades Science Education (3) ED TAL
Prepare 5-9 sci teachers to tch sci skills, content; interpersonal relationship, applications of sci as a human endeavor; nature of sci; instructional methods; nature scientific inquiry; development of sci process skills; integration of subj areas; & assessment.

SCE 5337 Methods of Secondary Science Education (3) ED TAL
Course concentrates on goals, subject matter teaching strategies for high school curricula; assessment and using data to improve student achievement; and development pedagogical content knowledge as it pertains to the teaching and learning of science.

SCE 5564 Reading and Communication in Science Education (3) ED TAL
This course prepares secondary science teachers to teach literacy practices in science. It includes methods for selecting appropriate reading and language approaches. Communication in science and functional aspects of scientific literacy are examined.

SCE 5937 Selected Topics in Science Education (1-4) ED TAL

SDS 3341 Career Development for Student Athletes (2-3) ED EAP
This course will prepare student athletes for transition to life after college. Students will identify career options based on interests, values and skills, research occupations, make effective decisions & learn job search techniques.

SDS 4942 Practicum in Career Development for Student-Athletes (0-2) ED EAP
This course was designed to ensure undergraduates have practical experience engaging in a mentor relationship with professionals in our community in order to lay a foundation toward a sustainable support system for post-collegiate success.

SLS 1101 The University Experience (1-3) US DEA
An extended introduction to USF. Topics include purposes of higher education, structure and function of USF, career planning, selecting a major, study skills, managing time, academic advising, computer resources, and decision-making.

SLS 2401 Career Development for Today (1-3) US DEA
Students will study vocational choice theories and participate in career decision processes. Development of self-awareness and knowledge of career opportunities and requirements necessary for decision making. Available to lower level majors or non-majors.

SLS 2901 Academic Foundations Seminar (1-3) US DEA
This course offers an introduction to students’ first years at USF that is designed to prepare them for a successful college experience. The course provides the necessary knowledge and experiences for students to be successful personally and academically.

SLS 3113 Critical Thought for Academic Transitions (1-3) US DEA
This course is designed to facilitate transfer students’ academic integration into a research university. Students will gain an understanding of the academic standards and expectations at a research university and discover how to be successful.

SLS 3275 Student Leadership on Campus (0-3) US DEA
This course promotes leadership and university knowledge among student leadership candidates. Students will learn about communication, customer service, team dynamics, student transition issues, academic support and issues of diversity, among many other topics.

SLS 3308 Job Search (1-3) US DEA
Students will prepare for a smooth transition to the ever-evolving workplace by becoming aware of current job seeking trends and skills that will promote success in the job search process.

SLS 3407 Strategies for Veteran Success (3) US DEA
This course facilitates the transition from military service to college with the goal of promoting student Veteran retention, graduation and job placement. It seeks to assist military veteran students in their integration into life outside the military.

SLS 3717 Peer Tutor Training (0) US DEA
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The purpose of this course is to provide training in theory and strategies for individual and group peer tutoring. This course will analyze such topics through discussion, group work, lecture, supplemental reading, and the exploration of learning patterns.

SOP 3742 Psychology of Women (3) AS WST
An examination of theories of female personality in historical perspective. Current research on sex differences, socialization, sexuality, psychology of reproduction. Emerging roles of women as related to social change and developmental tasks of the life cycle.

SOP 4004 Social Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
Survey of methods, empirical findings, and theoretical interpretations in the study of an individual's behavior as it is affected by others.

SOP 4330 Social Psychology of HIV/AIDS (3) AS PSY
PR: PSY 2012, PSY 3017, PSY 3213
Students study social psychology theory and research while working at an AIDS service organization. They use the research as a framework for understanding, and developing solutions to, problems confronting the organization's staff and clients.

SOP 4514 The Holocaust, Social Prejudice, and Morality (3) AS PSY
PR: PSY 2012.
Examines the Holocaust from social, psychological, and communication/language perspectives. Reviews root causes of prejudice, the manifestations of hatred in language, relationships, and the ultimate impacts on victims and survivors and rescuers.

SOP 4702 Psychology of Gender (3) AS PSY
This course is designed to introduce students to the psychological study of gender, from developmental, biological, social, and cultural perspectives.

SOP 4714C Environmental Psychology (3) AS PSY
PR: PSY 3213 with a grade of C or better
Explores the influences of environment on behavior. Topics considered include crowding, privacy, territorial behavior, environmental design, and pollution effects. Designed for both psychology majors and non-majors.

SOW 3101 Human Behavior and the Social Environment I (3) BC SOK
An integrating human behavior-social environment course emphasizing dynamics of behavior and environmental factors as they relate to social work practice with individuals, and families.

SOW 3102 Human Behavior and the Social Environment II (3) BC SOK
PR: SOW 3101, SOW 4341, SOW 4522.
An integrating course emphasizing dynamics of behavior and environmental factors as they relate to social work practice with families, groups, organizations and communities.

SOW 3203 Introduction to Social Work (3) BC SOK
An introductory course tracing the development of social work as a profession including an examination of the knowledge, skill and attitudinal base of the profession and professional roles and functions.

SOW 3210 The American Social Welfare System (3) BC SOK
A general education introductory course which provides students with a framework for understanding the historical development of American social welfare, its value base, and its response to minorities, women, children, the elderly, and the disabled.

SOW 3401 Research and Statistics For Social Work (3) BC SOK
PR: SOW 3101, SOW 4343, SOW 4522
The purpose of this course is two-fold: to familiarize the student with research as it is practiced in the profession of Social Work; and to equip the student with those theoretical understandings necessary to be a critical consumer of social work research.

SOW 4233 Social Welfare: Policy & Program (3) BC SOK
PR: SOW 3101, SOW 3401, SOW 4341, SOW 4522, SOW 3102, SOW 4343
CR: SOW 4510, SOW 4510L
An advanced policy course taking an analytical approach to contemporary social welfare policy issues and current social welfare programs.

SOW 4315 Social Work Case Management with Special Populations (3) BC SOK
PR: SOW 4341
This course is designed to develop student knowledge, skills, and values for providing effective case management services in a variety of setting. Students become aware of evidence-based case management practices with at risk populations.

SOW 4341 Multi-Methods of Social Work Practice I: Micro-System Intervention (3) BC SOK
CPR: SOW 3101; SOW 4522
First practice course emphasizing development of skills and interventive methods with individuals, families and small groups. Course includes both didactic and experiential learning components.

SOW 4343 Multi-Methods of Social Work Practice II: Macro-System Intervention (3) BC SOK
PR: SOW 3101, SOW 4522, SOW 4341
CR: SOW 3401, and SOW 3102
Second practice course emphasizing intervention at the community and organizational level. Builds upon theoretical and practical content of SOW 4341. Course includes both didactic and experiential learning components.

SOW 4414 Social Work Data Management (2) BC SOK
PR: SOW 3401
The purpose of this course is to introduce students to quantitative tools used to
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describe/interpret data used in social work practice, research and policy formation. Students learn to plan and conduct analyses guided by understanding of social work.

**SOW 4510 Integrative Seminar (9) BC SOK**
**PR: SOW 3210, SOW 3301, SOW 3101, SOW 3102, SOW 3401, SOW 4341, SOW 4343, SOW 4522**
The field seminar course is designed to offer a structured environment in which to integrate academic coursework with a structured field placement. Restricted to majors, repeatable for full credit.

**SOW 4522 Multicultural America in a Global Society GCPC (3) BC SOK**
This course is an introduction to the study of diverse cultures, abilities, and norms which comprise our global society. The content centers on the diverse client systems that practitioners will be called upon to interface with in their different roles.

**SOW 4602 Social Work Practice in Mental Health and Health Care (3) BC SOK**
**PR: SOW 4343**
The purpose of this course is to introduce students to social work practice in mental health and health care settings. Students will be introduced to a variety of mental health and health assessments and interventions.

**SOW 4900 Directed Readings (1-9) BC SOK**
Content dependent upon student interest and ability. A contract will be jointly developed by student and instructor specifying nature of work to be completed.

**SOW 4910 Directed Research (1-6) BC SOK**
**PR: Completion of four social work courses including SOW 3401**
Directed Research is intended to provide students with research experience in areas of specific interest in social work. A contract will be developed between student and instructor specifying nature of work to be completed.

**SOW 4930 Variable Topics in Social Work (1-3) BC SOK**
Variable title courses to expand on the four sequence areas in the Social Work core curriculum. Allows focus on areas relevant to student's educational interest.

**SPA 3002 Introduction to Communication Sciences and Disorders (3) BC CSD**
This course involves an introduction to the field of study of Communication Sciences and Disorders. Access will be provided to the most current theories, research and practices through rich examples, videos, expert speakers and anecdotes.

**SPA 3004 Introduction to Language Development and Disorders (3) BC CSD**
This course introduces theoretical concepts and research findings concerning the normal developmental process of language learning as a basis for differentiating developmental delay or disorder of language.

**SPA 3011 Introduction to Speech Science (3) BC CSD**
**PR: SPA 3030, SPA 3112.** Concentrated study of the acoustic, physiological and perceptual aspects of sound as related to normal and pathological speech communication. Introduction to instrumentation and measurement procedures.

**SPA 3030 Introduction to Hearing Science (3) BC CSD**
Introduction to the field of hearing including: physics of sound, auditory anatomy and physiology, and psychophysiology of hearing.

**SPA 3101 Anatomy and Physiology of the Speech and Hearing Mechanism (3) BC CSD**
The neurological and anatomical basis of communication disorders. Comparisons of normal and pathological organic structures and their functional dynamics.

**SPA 3112 Applied Phonetics in Communication Disorders (3) BC CSD**
**CR: SPA 3112L** Introduction to phonetic analysis of normal and disordered speech, including training in phonetic transcription of normal and disordered speech using the International Phonetic Alphabet.

**SPA 3112L Applied Phonetics Laboratory (1) BC CSD**
**CR: SPA 3112** Laboratory experience offering extensive practice in phonetic transcription of normal and disordered speech using the International Phonetic Alphabet.

**SPA 3261 Language Science for Comm. Sciences & Disorders (3) BC CSD**
This course will present a focused introduction to linguistics and psycholinguistics from the perspective of CSD. Students will learn the fundamentals of language structure, basic facts about language processing, and how they relate to CSD.

**SPA 3310 Introduction to Disorders of Hearing (3) BC CSD**
**PR: SPA 3030** The etiology, pathology, and management of disorders of the outer ear, middle ear, inner ear, retrocochlear, and central auditory systems.

**SPA 3470 Culture and Diversity in CSD CPST GCPC (3) BC CSD**
An in-depth exploration of diversity issues within CSD. Consideration of groups and cultures of various groups highly represented in the US. Application of concepts to scenarios which affect ASL interpreters, speech pathologists, and audiologists.

**SPA 3653 Overview of Language Learning in Deaf Children (3) BC CSD**
**CR: SPA 3653L** Overview of language development of deaf children from infancy through young adulthood,
including various theories of language development in the deaf and communication/language of the deaf assessment techniques, and interpreting skills relating to learning processes.

SPA 3653L Overview of Language Learning in Deaf Children Lab (1) BC CSD
CR: SPA 3653
An exploration and overview of communication modes and language used in public school settings by deaf children. Includes a study of how systems overlap and a development of flexibility in using different modes and languages, and the implications for interpreters.

SPA 3673 Introduction to Auditory Functions (3) BC CSD
An overview of hearing science and speech science relating to the educational environment. This course orientates the student to the variables extent in oral-aural communication among children who have hearing impairment. It addresses techniques and methods of hearing measurement and amplification of sound as well as the interpreter’s role in audiological evaluation and speech language therapy.

SPA 4050 Introduction to the Clinical Process CPST (3) BC CSD
PR: SPA 3004 and SPA 3310.
Observation and participation in speech-language pathology and audiology services provided at USF-CSD clinical laboratory. Professional and ethical issues, oral and written communication skills are stressed through clinical and practical projects.

SPA 4104 Neuroanatomy for Speech, Language and Hearing (3) BC CSD
PR: SPA 3101 (highly recommended). Students will learn neuroanatomical & neurophysiological principles, structures, and functions that subserve speech, hearing, language and cognition. A case-based approach will enable understanding of behavioral manifestations of neuropathologies.

SPA 4201 Phonological Development and Disorders (3) BC CSD
PR: SPA 3004, SPA 3011.
An examination of normal and deviant articulatory and phonological acquisition and behavior. Presentation of major theoretical orientations and the therapeutic principles based upon them.

SPA 4210 Vocal Disorders (3) BC CSD
PR: SPA 3011 and SPA 3310.
A comprehensive study of the medical and physical aspects of voice disorders. Differential diagnosis, principles of therapeutic intervention, and procedures for children and adults will be stressed.

SPA 4222 Fluency Disorders (3) BC CSD
PR: SPA 4201.
A comprehensive study of disfluent speech behavior. Differential diagnosis, principles of therapeutic intervention, and procedures for children and adults will be studied. Major theories and models of the development and origin of stuttering are also presented.

SPA 4250 Introduction to Speech Disorders (3) BC CSD
PR: SPA 3101.
This course will provide an overview of the mechanisms involved in speech production, and will review the nature and impact of speech sound disorders, fluency disorders, voice and resonance disorders, and organic speech disorders.

SPA 4257 Adult Communication Disorders (3) BC CSD
PR: SPA 4104
This course provides an overview of communication disorders seen in adult populations & prepares students for clinical encounters with this population. The disorders include those involving language, cognitive-communication, & speech & motor control.

SPA 4321 Introduction to Audiologic Rehabilitation (3) BC CSD
PR: SPA 3310
Assessment and management of individuals with hearing loss. Topics include: effects of hearing loss; assessment and intervention, including: a) amplification and cochlear implants; b) speechreading and auditory training; c) communication intervention.

SPA 4510 Intro. to Clinical Methods and Counseling in CSD (3) BC CSD
PR: SPA 3004, SPA 3310.
This course introduces the student to fundamental skills and knowledge needed prior to beginning clinical work in speech-language pathology/audiology. Professional/ethical issues, principles of assessment/intervention, & interviewing skills are included.

SPA 4555 Counseling of Communicatively Handicapped and Family (3) BC CSD
PR: SPA 3011 and SPA 3310.
Discussion of role of counseling in the treatment of communication disorders. Based on exploration of theoretical constructs, this course demonstrates application of therapeutic methodologies to reduction of communication handicaps.

SPA 4632 Nature and Needs of the Deaf and Hard of Hearing (3) BC CSD
PR: SPA 3310.
This study of the effects of auditory disorders upon the organization and expression of behavioral patterns as they relate to motivation, adjustment and personality.

SPA 4901 Research Methods in Communication Sciences and Disorders (3) BC CSD
This course introduces students to principles of research in CSD & provides an introduction to advanced areas of study in the field. Students are presented with the basic tools of research & will learn about the breadth of research conducted in the field.
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SPA 4906 Independent Study (1-10) BC CSD
Indep. Study will allow UG students to work independently under the supervision of Faculty members in the pursuit of content gained independently. The course is repeatable for a total of 10 credits. Majors only.

SPA 4910 Directed Research (1-10) BC CSD
Directed Research will allow the UG student to obtain supervised research experience under the direction of a Faculty member. The course is repeatable for a total of 10 credits. Majors only.

SPA 4930 Selected Topics (1-3) BC CSD
Intensive study of topics in Speech-Language Pathology, Audiology, and/or Aural Rehabilitation conducted under the supervision of a faculty member.

SPA 4962 Undergraduate Comprehensive Examination (1) BC CSD
PR: INT 4206, INT 3004
This purpose of this course is to ensure that graduates from ITT are thoroughly prepared for entry into the job market. For majors only and repeatable if necessary. It consists of 2 parts: individual meetings with an advisor and a comprehensive exam.

SPA 4970 Honors Thesis (1-10) BC CSD
The student, under the supervision of a Faculty member will formalize, conduct, analyze and report in writing a research project in the Department of Communication Sciences and Disorders. The course is repeatable for a total of 10 credits. Majors only.

SPA 5120 Psychoacoustics (3) BC CSD

SPA 5132 Audiology Instrumentation (3) BC CSD
PR: SPA 5120, SPA 6930, SPA 5506.
Instruction in the use of clinical and laboratory instrumentation. Emphasis placed on electronic circuitry, signal generation, filtering, and calibration. Hands-on experience with equipment typically used in clinical auditory research will be provided.

SPA 5133C Speech Science Instrumentation (3) BC CSD
PR: SPA 3011 or equivalent.
Underlying principles and laboratory exercises in the use of audio recording, acoustic analysis, and clinical instrumentation.

SPA 5153 Quantitative Problem Solving in Speech Pathology and Audiology (3) BC CSD
Covers fundamental mathematical and statistical concepts underlying the field of Communication Sciences and Disorders and application of these concepts to practical and clinical problems. Not restricted to majors or repeatable for credit.

SPA 5204 Advanced Clinical Phonology (3) BC CSD
The principles of generative phonology will be applied to the assessment and treatment of phonological disorders. Emphasis is placed on making a child’s phonology more functional for communication purposes.

SPA 5303 Auditory Anatomy and Physiology (3) BC CSD
Provide a comprehensive understanding of the physiological acoustics of the auditory periphery, neuroanatomy and electrophysiology of the central auditory system, and psychoacoustic principles as they relate to clinical audio logic measurement paradigms.

SPA 5328 Rehabilitative Audiology for Adults (3) BC CSD

SPA 5403 Language-Learning in the School-Age Years (3) BC CSD
Metalinguistic and metacognitive development are linked to the interactional demands of classroom and clinical discourse; observational tools are applied to evaluation and intervention planning.

SPA 5506 Speech-Language Pathology and Audiology Practicum (1-8) BC CSD
Participation in speech-language pathology and audiology practicum in the University Communication Disorders Center and selected field settings.

SPA 5552 Diagnostic Principles and Practices (3) BC CSD
The administration, evaluation, and reporting of diagnostic tests and procedures used in assessment of communication disorders.

SPB 4712 Sport Marketing (3) BA MKT
PR: MAR 3023
CR: MAR 3823
This course provides undergraduate students with an overview of the rapidly developing sport and entertainment industry from a strategic marketing perspective.

SPB 4717 Social Media in Sport Marketing (3) BA MKT
PR: MAR 3023
CR: MAR 3823
Examines the role of social media in sport marketing to build and enhance relationships with customers, fans, employees and businesses. Explores opportunities and challenges to leverage social media.

SPC 2608 Public Speaking CAHU (3) AS SPE
The nature and basic principles of human communication; emphasis on improving speaking and listening skills common to all forms of oral communication through a variety of experiences in public discourse.

SPC 3212 Communication Theory (3) AS SPE
### COURSE DESCRIPTIONS

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Department</th>
<th>Prerequisite</th>
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<tbody>
<tr>
<td>SPC 4201</td>
<td>Oral Tradition</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 3710</td>
<td>Communication and Cultural Diversity</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 3680</td>
<td>Rhetorical Analysis</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 3602</td>
<td>Advanced Public Speaking</td>
<td>(3)</td>
<td>AS SPE</td>
<td>PR: SPC 2608 with grade of C- or above</td>
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<tr>
<td>SPC 3513</td>
<td>Argumentation and Debate</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 3425</td>
<td>Group Communication</td>
<td>6ACT (3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 3544</td>
<td>Persuasion and Media</td>
<td>(3)</td>
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<tr>
<td>SPC 3602</td>
<td>Advanced Public Speaking</td>
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<td>SPC 3553</td>
<td>Popular Forms of Public Communication</td>
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<td>SPC 3680</td>
<td>Rhetorical Analysis</td>
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<td>Oral Tradition</td>
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<td>AS SPE</td>
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<tr>
<td>SPC 4305</td>
<td>Communicating Emotions</td>
<td>6ACT (3)</td>
<td>AS SPE</td>
<td>PR: COM 2000 with C or above</td>
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<tr>
<td>SPC 4310</td>
<td>Relationships on Film</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 4321</td>
<td>Communication and Aging</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 4341</td>
<td>Family Communication</td>
<td>(3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 4632</td>
<td>Rhetoric and Social Change</td>
<td>6ACT (3)</td>
<td>AS SPE</td>
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<tr>
<td>SPC 4683</td>
<td>Rhetorical Analysis of Mass Media</td>
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<td>AS SPE</td>
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<td>SPC 4701</td>
<td>Intercultural Communication</td>
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<td>AS SPE</td>
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<td>SPC 4714</td>
<td>Communication, Culture and Community</td>
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<tr>
<td>SPC 4900</td>
<td>Directed Readings</td>
<td>(1-3)</td>
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The study of source, message, and receiver variables in human communication; communication settings: descriptive and predictive models of communication; communication as a process.

**SPC 3230 Rhetorical Theory (3) AS SPE**

This course surveys the foundations and historical evolution of major concepts, issues, theorists, and approaches to the study of rhetoric from Plato to recent contemporary theorists.

**SPC 3301 Interpersonal Communication CASB (3) AS SPE**

A study of interpersonal communication in informally structured settings with emphasis on the understanding, description, and analysis of human communication.

**SPC 3425 Group Communication 6ACT (3) AS SPE**

A survey of theory and research in group communication. Group discussions and communication exercises to increase awareness of the dynamics of human communication in small group settings.

**SPC 3513 Argumentation and Debate (3) AS SPE**

Study of principles of argumentation as applied in oral discourse, analysis of evidence and modes of reasoning. Practice in debate preparation and delivery.

**SPC 3553 Popular Forms of Public Communication (3) AS SPE**

Analysis of public communication with emphasis on various presentational forms.

**SPC 3602 Advanced Public Speaking (3) AS SPE**

Study of principles of argumentation as applied in spoken discourse, analysis of evidence and modes of reasoning. Practice in debate preparation and delivery.

**SPC 3680 Rhetorical Analysis (3) AS SPE**

This course introduces students to fundamentals of message analysis. Student examines persuasive strategies and language in oral and written discourse.

**SPC 3710 Communication and Cultural Diversity CAGC HHCP (3) AS SPE**

Examination of communication and cultural diversity within the United States. Cultural groups include gender, racial and ethnic (e.g., African American, Latino American, Asian American), social class, age and generation, religious (e.g., Jewish) and physical ability.

**SPC 4201 Oral Tradition (3) AS SPE**

Study of orality, its forms, functions, and transformations, in traditional and literate societies from folkloric and psychological traditions and from contemporary communication and cultural studies perspectives.

**SPC 4305 Communicating Emotions 6ACT (3) AS SPE**

PR: COM 2000 with C or above

Study of emotional experience, what emotions mean to us, how we talk about them, and the ways group and cultural membership influence them. Focus on attachment and loss in romantic, family and group relationships.

**SPC 4307 Talk in Relationships (3) AS SPE**

Explores talk as practical action through observation, transcription, and analysis.

**SPC 4310 Relationships on Film (3) AS SPE**

Examination of the ways in which cinema inscribes conceptions and meanings of romance, love, intimacy and sexuality. Focus on systems of interpretation fostered by cinema representations of intimacy, sexuality, emotion, subjectivity, and betrayal.

**SPC 4321 Communication and Aging (3) AS SPE**

Examines theories of aging through intergenerational and interpersonal communication, explores aging in the media, and considers contexts of communication in older adulthood.

**SPC 4431 Family Communication (3) AS SPE**

Examines the processes and functions of communication in family relationships. Examination of scholarly and popular literature on family structure, family systems, family development, and family stories. Analysis of families in fiction and cinema.

**SPC 4632 Rhetoric and Social Change 6ACT (3) AS SPE**

This course examines how social change is symbolized and motivated in the rhetorics of institutions, campaigns, social movements and individuals.

**SPC 4683 Rhetorical Analysis of Mass Media (3) AS SPE**

An introduction to the criticism of media forms and effects. Contemporary perspectives on the aesthetic and persuasive dimensions of mass media are examined. Students will engage in critical study of media artifacts.

**SPC 4701 Intercultural Communication (3) AS SPE**

Explores issues of culture, power, and politics inherent in the ways we practice intercultural communication.

**SPC 4714 Communication, Culture and Community (3) AS SPE**

Examines the relationships among culture, communication, institutions, and public and private life. Students explore the possibilities and problems of contemporary forms of community through service in a volunteer organization.

**SPC 4900 Directed Readings (1-3) AS SPE**
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PR: COM 2000
Individualized reading with professor to complement undergraduate research projects.

SPC 4903 Honors Readings (3) AS SPE
PR: COM 2000 with grade of C or better
Focused readings directed toward preparation of a proposal for an undergraduate honors thesis.

SPC 4905 Undergraduate Research (1-3) AS SPE
PR: COM 2000
Individual investigations with faculty supervision.

SPC 4930 Selected Topics (1-3) AS SPE
Variable topics.

SPC 4932 Senior Seminar in Communication (3) AS SPE
PR: COM 2000
Exploration of selected topics of current significance to the several areas of communication through group discussion and research.

SPC 4970 Honors Thesis (3) AS SPE
Involves individual research and preparation of an undergraduate honors thesis.

SPM 3012 Issues in Sport (3) ED TAL
A study of organized sport as a pervasive part of contemporary society. By increasing understanding of some of the issues and controversies based on the structure of sport and society, individuals will be able to understand and improve sport experiences for themselves and others.

SPM 3256 Sport in Society: Contemporary Issues (3) ED TAL
A study of organized sport in society. Individuals will be able to understand issues such as race, social class, gender, politics, religion, economics, media, physical disabilities, sexual orientation, and ethics as they relate to sports.

SPN 1120 Beginning Spanish I (4) AS WLE
Development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

SPN 1121 Beginning Spanish II (4) AS WLE
PR: SPN 1120 or equivalent
Continued development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

SPN 2200 Spanish III (3) AS WLE
PR: SPN 1121 or equivalent.
Continued development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

SPN 2201 Spanish IV (3) AS WLE
PR: SPN 2200 or equivalent.
Continued development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

SPN 2240 Conversation I (3) AS WLE
PR: SPN 2201.
For development of basic conversational skills.

SPN 2241 Conversation II (3) AS WLE
PR: SPN 2240 or equivalent.
To improve fluency in spoken Spanish.

SPN 2270 Overseas Study (1-6) AS WLE
PR: SPN 1121.
An intensive study-travel program in a Spanish-speaking country.

SPN 2340 Advanced Spanish for Native Speakers I (3) AS WLE
Course for native and near-native speakers of Spanish due to home environment and/or residence in a Spanish speaking country, but without formal training in the language. Emphasis on cultural exploration and the grammatical problems of such speakers.

SPN 2341 Advanced Spanish for Native Speakers II (3) AS WLE
PR: SPN 2340
Continuation of SPN 3340. Course for native and near-native speakers of Spanish due to home environment and/or residence in a Spanish speaking country, but with limited or no training in the language. Emphasis on grammar problems affecting such speakers.

SPN 3300 Advanced Spanish Grammar and Composition (3) AS WLE
PR: SPN 2201 or equivalent.
A study of syntax, grammar and writing.

SPN 3340 Spanish for Business and International Trade I (3) AS WLE
PR: SPN 2201 or equivalent.
A study of vocabulary and business practices of the Spanish speaking world. Overview of cultural differences within the Spanish speaking world, with emphasis on their impact on business and international trade.

SPN 3341 Spanish for Business and International Trade II (3) AS WLE
PR: SPN 3340 or equivalent.
Continuation of SPN 3340. A study of vocabulary and business practices of the Spanish speaking world. Overview of cultural differences within the Spanish speaking world, with emphasis on their impact on business and international trade.

SPN 3350 Spanish Civilization (3) AS WLE
PR: SPN 2201 or equivalent.
The culture and civilization of Spain. For majors and non-majors.

SPN 3354 The Three Cultures of Medieval Spain (3) AS WLE
In this course students will have the opportunity to explore the history and traditions of three of the world’s leading religions in the context of the Iberian Peninsula and its Jewish, Christian, and Arab past.

SPN 3520 Spanish-American Civilization (3) AS WLE
PR: SPN 2201 or equivalent.
Readings and discussions on the culture and civilization of Spanish America. For majors and non-majors.
COURSE DESCRIPTIONS

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SPN 3564 Spain Today: Culture and Politics in the Media (3) AS WLE
This course teaches contemporary culture in Spain through a variety of media and cultural authentic materials. Course primarily discussion-based with short introductions of historical and cultural contexts.

SPN 4301 Expository Writing (3) AS WLE
PR: SPN 3300 or SPN 2340.
Practical training in contemporary Spanish structure, usage and stylistic devices.

SPN 4410 Advanced Conversation (3) AS WLE
PR: SPN 2241 or equivalent.
Intensive practice in the formulation and expression of ideas in standard Spanish.

SPN 4470 Advanced Overseas Study (1-6) AS WLE
PR: SPN 2270.
Intensive language study in Spain.

SPN 4700 Spanish Linguistics (3) AS WLE
PR: LIN 3010 or equivalent and SPN 2201 or equivalent.
An introduction to Hispanic linguistics: Phonology, morphology, syntax, and lexicography.

SPN 5525 Modern Spanish American Civilization (3) AS WLE
PR: SPN 3520 or equivalent.
Advanced readings and discussions dealing with Spanish American civilization and culture, including a study of social, artistic and political trends. Text and discussion in Spanish.

SPN 5567 Modern Spanish Civilization (3) AS WLE
PR: SPN 3500 or equivalent.
Advanced readings and discussions dealing with contemporary Spanish civilization and culture, including a study of recent social, artistic and political trends. Texts and discussions in Spanish.

SPT 3100 Masterpieces of Hispanic Literature (3) AS WLE
This course analyzes major literary works from Spain and Latin America. Through a selection of works from the medieval period to the present students will view the intellectual and cultural history of the Spanish speaking world.

SPW 3030 Introduction to Hispanic Literary Studies (3) AS WLE
PR: SPN 3300 or SPN 2340.
Prose fiction, drama, poetry, and essay; techniques of literary analysis.

SPW 3393 Spanish Culture through Literature and Film (3) AS WLE
This course teaches modern Spanish culture, history, and thought through a variety of interdisciplinary expressions, such as poetry, narrative, essay, visual arts, and film. The scope of the course spans from the early nineteenth century up to now.

SPW 4100 Survey of Spanish Literature I (3) AS WLE
PR: SPW 3030 or equivalent.
A study of Spanish literature from its origins through the 17th century.

SPW 4101 Survey of Spanish Literature II (3) AS WLE
PR: SPW 3030 or equivalent.
A study of the later periods of Spanish literature.

SPW 4130 Survey of Spanish-American Literature I (3) AS WLE
PR: SPW 3030 or equivalent.
Introduction to the study of Spanish American literature from the Discovery to the Romantic period. Emphasis will be on foundational writers of history, descriptive and lyric poetry, theater, fiction and essay.

SPW 4131 Survey of Spanish-American Literature II (3) AS WLE
PR: SPW 3030 or equivalent.
An introduction to the study of Spanish-American literature from the Modernism period to the present. Emphasis on modern writers since Dario.

SPW 4145 Sex and Subversion in Spanish Art, Lit, and Film (3) AS WLE
This course teaches Spanish culture and thought through a variety of artistic expressions related to the theme of sex and subversion, such as surrealism (art, film, poetry, theatre, essays) and the "new wave" of the 1980s (visual art, film), among others.

SPW 4311 The Creative Genius of the Golden Age (3) AS WLE
In this course we will explore the works of art produced by master painters (Velázquez, etc.), the music of renowned musicians (Encina, etc.), and the literary works of some of the worlds most renowned writers.

SPW 4900 Directed Study (1-3) AS WLE

SPW 4930 Selected Topics (1-3) AS WLE
Study of an author, movement or theme.

SPW 5135 Colonial Spanish American Literature (3) AS WLE
PR: SPW 4131.
Introduction to Colonial Spanish American Literature from the discovery through the Romantic Period.

SPW 5339 Golden Age Drama (3) AS WLE
PR: SPW 4100.
Lope de Vega, Alarcon, Tirso, Calderon, and others.

SPW 5375 Latin American Short Story (3) AS WLE
The course examines the state of the Spanish American short story in the 20th Century through reading, analysis and discussion of primary and secondary texts.

SPW 5387 Spanish American Prose (3) AS WLE
PR: SPW 4131.
Emphasis on the gaucho theme and contemporary prose fiction.

SPW 5405 Medieval Literature (3) AS WLE
PR: SPW 4100 or equiv.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>SSE 5333</td>
<td>Teaching Middle Grades Social Science (3) ED TAL</td>
<td>SSE 4333</td>
<td>This course is designed to study techniques and strategies employed by social science teachers that are effective in motivating middle school aged youth to acquire the information, skills, and modes of reasoning unique to the social sciences. Students are expected to plan and present instructional plan(s) demonstrating use of various methods, techniques, and material that achieve concrete outcomes. Theoretical foundations of social studies are also studied. Fieldwork is required.</td>
</tr>
<tr>
<td>SSE 4334</td>
<td>Teaching Secondary Grades Social Science (3) ED TAL</td>
<td>SSE 4333</td>
<td>This course is a continuation of SSE 4333 with further development of the instructional techniques and strategies and the information, skills, and modes of reasoning unique to the social sciences with an emphasis on the secondary school environment. The teaching profession, school settings, and current issues are examined. Students are expected to plan and present instructional plan(s) appropriate to middle and secondary school levels demonstrating command of the course content.</td>
</tr>
<tr>
<td>SSE 4335</td>
<td>Teaching Social Science Themes (3) ED TAL</td>
<td>SSE 4333</td>
<td>The course is a laboratory-based, capstone course in which knowledge, skills, and dispositions are demonstrated by students teaching social studies content using the thematic approaches adopted by the National and State accrediting bodies.</td>
</tr>
<tr>
<td>SSE 4936</td>
<td>Senior Seminar in Social Science Education CPST (3) ED TAL</td>
<td>SSE 4940</td>
<td>Synthesis of teacher candidate's courses and preparation for the professional interview and application process.</td>
</tr>
<tr>
<td>SSE 4940</td>
<td>Internship: Social Science Education (1-12) ED TAL</td>
<td>SSE 4936</td>
<td>One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 Semester hours.</td>
</tr>
<tr>
<td>SSE 5331</td>
<td>Foundations, Curriculum &amp; Instruction of Social Science Education (3) ED TAL</td>
<td>SSE 4936</td>
<td>Social studies curriculum, methods of instruction and social, philosophical and psychological foundations are examined. Students are expected to plan and present instructional plan(s) appropriate to middle and secondary school levels demonstrating command of the course content.</td>
</tr>
<tr>
<td>SSE 5332</td>
<td>Methods &amp; Strategies in Social Science Education (3) ED TAL</td>
<td>SSE 4936</td>
<td>Social studies methods and strategies are examined with an emphasis on the secondary school environment. The teaching profession, school settings, and current issues are examined. Students are expected to plan and present instructional plan(s) appropriate to senior high school demonstrating command of the course content.</td>
</tr>
<tr>
<td>SSE 5641</td>
<td>Reading and Basic Skills in the Content Area (3) ED TAL</td>
<td>SSE 4936</td>
<td>Reading skills and the other basic skills as applied to the social studies are examined. Students are expected to plan and present instructional plan(s) appropriate to the social studies classroom demonstrating command of the course content. Fieldwork in a middle school is required.</td>
</tr>
<tr>
<td>SSE 5946</td>
<td>Practicum in Social Science Education (3) ED TAL</td>
<td>SSE 4936</td>
<td>Social studies curriculum, methods of instruction and social, philosophical and psychological foundations are examined. Students are expected to plan and present instructional plan(s) appropriate to middle and secondary school levels demonstrating command of the course content.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Notes</td>
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<tr>
<td>STA 4222</td>
<td>Introduction to Mathematical Statistics II (3) AS MTH</td>
<td>3</td>
<td>PR: MAC 2311, MAC 2312, and MAC 2313 (or MAC 2281, MAC 2282, and MAC 2283), and STA 4321. This course follows the course STA 4321 &quot;Introduction to Mathematical Statistics I&quot;. STA 4322 is based on the second half of the textbook used in STA 4321. The proposed course is a permanent version of STA 4930 &quot;Advanced Essentials of Statistics&quot;.</td>
</tr>
<tr>
<td>STA 4442</td>
<td>Introduction to Probability (3) AS MTH</td>
<td>3</td>
<td>PR: MAC 2313. Introduction to probability theory using calculus. Basic ideas of probability and random variables, discrete probability functions, continuous probability densities, joint distributions, transformations of random variables, moments and generating functions of random variables, limit theorems.</td>
</tr>
<tr>
<td>STA 4502</td>
<td>Nonparametric Statistical Methods (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. This course covers the fundamental concepts, and provides examples, of nonparametric statistical methods. Topics to be covered include sample testing, estimation methods, layout models, correlation and regression models, and goodness of fit tests.</td>
</tr>
<tr>
<td>STA 4504</td>
<td>Categorical Data Analysis (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. Fundamental concepts and examples of categorical data analysis. Topics include description and interference using proportions and odd ratios, multi-way contingency tables, logistic regression and other generalized linear models, and log linear models.</td>
</tr>
<tr>
<td>STA 4702</td>
<td>Multivariate Statistical Methods (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. This course covers the fundamental concepts of multivariate analysis. Topics to be covered include Matrix theory and distributions (normal, t, chi-squared, F), inference about multivariate means and inference about covariance structure.</td>
</tr>
<tr>
<td>STA 4852</td>
<td>Applied Time Series (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321 and STA 4442. This course covers the fundamental concepts, estimations, and hypothesis testing of discrete time series models. The models will be developed using the autoregressive and moving average processes. Numerous examples will be provided.</td>
</tr>
<tr>
<td>STA 4930</td>
<td>Selected Topics (1-3) AS MTH</td>
<td>1-3</td>
<td>Rotating topics designed to meet the need and interests of students.</td>
</tr>
<tr>
<td>STA 5166</td>
<td>Statistical Methods I (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. Statistical analysis of data by means of statistics package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical...</td>
</tr>
<tr>
<td>STA 5166</td>
<td>Statistical Methods II (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. Statistical analysis of data by means of statistics package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical...</td>
</tr>
<tr>
<td>STA 5166</td>
<td>Statistical Methods III (3) AS MTH</td>
<td>3</td>
<td>PR: STA 4321. Statistical analysis of data by means of statistics package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical...</td>
</tr>
</tbody>
</table>

**Course Descriptions**

**STA 2023 Introductory Statistics CAQR 6AMT (3) AS MTH**
- PR: C (2.0) or better in High School Algebra or Elementary Algebra CPT score of 72 or better.

**STA 2122 Social Science Statistics CAQR 6AMT (3) AS ISS**
- Students are taught the fundamental vocabulary and symbols of statistics as well as commonly used statistical procedures in social sciences.
- Students conduct analyses, interpret results and make conclusions about research questions.

**STA 3024 Introductory Statistics II 6AMT (3) AS MTH**
- PR: STA 2023
- Factorials, ANCOV: multiple curvilinear regression; response surfaces; Latin squares, Split Plots, incomplete designs; distribution free methods.

**STA 3027 Statistics and Probability Connections (3) AS MTH**
- PR: MAC 2233 or MAC 2241 or MAC 2281 or MAC 2311
- This course will provide prospective teachers with experiences in statistics and probability theory that will help them develop the specialized content knowledge needed to support the teaching of mathematics in middle level education.

**STA 4102 Computational Methods for Applied Statistics (3) AS MTH**
- PR: STA 2023 and STA 3024.
- This course introduces fundamentals of the R and SAS statistical software packages. Topics include data manipulation, graphs, regression, ANOVA, hypothesis testing, and non-parametric tests.

**STA 4222 Sample Survey Design (3) AS MTH**
- PR: STA 2023 and STA 3024.
- The course covers common statistical survey design methods, including random sampling, stratified sampling, systematic sampling, and cluster sampling. Other topics include bias and non-sampling errors.

**STA 4321 Introduction to Mathematical Statistics I 6AMT (3) AS MTH**
- PR: STA 4442.
- Basic statistical methods. Estimation, hypothesis testing, regression, ANOVA, and nonparametric methods.

**STA 4442 Introduction to Probability 6AMT (3) AS MTH**
- PR: STA 4321. Introduction to probability theory using calculus. Basic ideas of probability and random variables, discrete probability functions, continuous probability densities, joint distributions, transformations of random variables, moments and generating functions of random variables, limit theorems.
data. Emphasis is on inter-relation between statistical theory, numerical methods, and analysis of real life data.

**STA 5326 Mathematical Statistics I (3) AS MTH**

PR: STA 5446.
Sample distribution theory, point & interval estimation, optimality theory, statistical decision theory, and hypothesis testing.

**STA 5446 Probability Theory I (3) AS MTH**

PR: STA 4442 and MAA 4212
Axioms of probability, random variables in Euclidean spaces, moments and moment generating functions, modes of convergence, limit theory for sums of independent random variables.

**STA 5526 Non-Parametric Statistics (3) AS MTH**

PR: STA 5326
Theory and methods of non-parametric statistics, order statistics, tolerance regions, and their applications.

**SUR 2101C Engineering Land Surveying (3) EN EGX**

Principles of land surveying for engineering practice. Traverses, levels, boundary surveys, route surveys, coordinate geometry, and mapping.

**SYA 3110 Classical Theory (3) AS SOC**

PR: SYG 2000
The analysis of the philosophical foundations, central principles, and historical development of Sociological theory. Required for Sociology majors and minors.

**SYA 3120 Contemporary Theory (3) AS SOC**

PR: SYA 3110 and SYG 2000
An examination of recent trends in sociological theory. Emphasis is on theories examining symbolic interactions, lived experience, popular culture, and social structures.

**SYA 3300 Research Methods (3) AS SOC**

PR: STA 2122 or equivalent.
Introduction to the scientific method and its application to social science research. Research design, sampling techniques, and critical evaluation of social research. Required for Sociology majors.

**SYA 3310 Qualitative Inquiry 6ACT (3) AS SOC**

PR: SYG 2000
Exploration of human relationships and behaviors, organizations, and the larger culture through research techniques such as interviews, participant observation, life histories, and narratives.

**SYA 4121 Queer Theory (3) AS SOC**

PR: Any one of the following: SYG 2000, SYG 2010; WST 2600; WST 3015, WST 2250; WST 3311.
Examines queer theory’s radical deconstruction of categories for understanding the possibility of theorizing “women’s” and “men’s” lives. The primary goal of this course is to introduce students to queer theory and feminist theories of sexuality.

**SYA 4304 Sociological Research Experience (1-3) AS SOC**

PR: SYG 2000
A flexible-unit course for advanced undergraduate students interested in participating in an ongoing faculty research project. Students will complete selected research tasks (background research, data collection and data analysis) with faculty supervision.

**SYA 4910 Individual Research (1-3) AS SOC**

PR: Four courses in sociology, including SYA 3300
Content depends on the interest of the student. A contract between the student and the sponsoring faculty member must be signed before class registration.

**SYA 4930 Topics in Sociology (3) AS SOC**

Selected specialized topics in Sociology. Topics such as AIDS in society, drugs in society, problems in education, sociology of childhood, public life, socio-biology. Content will vary by semester and by section. See class schedule for specific contents each semester. This course, in different content areas, may be repeated for credit.

**SYA 4935 Senior Seminar CPST GCPC (3) AS SOC**

PR: SYG 2000, SYA 3110, SYA 3300 plus 6 hours of Sociology electives.
The opportunity for senior sociology majors to apply sociological theory and methods to topics of relevance in today’s society.

**SYA 4949 Sociological Internship (1-6) AS SOC**

Supervised placement in community organization or agency for a minimum of 10 hours of volunteer work per week, and a weekly seminar on applying sociological skills and methods in the placement setting.

**SYD 3700 Racial and Ethnic Relations CASB (3) AS SOC**

This course introduces students to a sociological understanding of race and ethnic relations. Students will analyze sociological theories on race and stratification through readings, lectures, discussion, multimedia, and group research projects.

**SYD 4238 Immigrants to America (3) AS SOC**

Examines major sociological debates in the field of immigration with an emphasis on recent immigrants to the United States.

**SYD 4410 Urban Sociology (3) AS SOC**

The social structure of the community in modern industrial societies. Analysis of community change.

**SYD 4411 Urban Life CPST (3) AS SOC**

This exit course introduces students to the theory and practice of urban and community research. Students will conduct supervised individual and group research on a Tampa Bay neighborhood of their choice.

**SYD 4512 Sustainable Consumption (3) AS SOC**

1. This course examines the relationship between the current environmental crisis and the consumer lifestyle shared by most Americans that is spreading globally.

SYD 4800 Gender and Society (3) AS SOC
PR: SYG 2000 or SYG 2010
Historical and current issues surrounding gender in America. Emphasis on exploring the causes, meaning, and consequences of gender differences, interpersonal relationships, and institutional participation.

SYG 2000 Introduction to Sociology CASB (3) AS SOC
This course introduces undergraduate students to the discipline of sociology. During the semester, we will analyze sociological theories, core concepts, and issues through readings, lectures, discussions, films, and hands-on research assignments.

SYG 2010 Contemporary Social Problems CASB (3) AS SOC
This course introduces students to a sociological understanding of “contemporary social problems.” Drawing on such concepts as culture, deviance and social institutions, we will analyze varying definitions, causes and solutions to these problems.

SYG 3011 Social Problems Through Film (3) AS SOC
Examines, through films, how sociologists define and study social problems, and investigates the role of the popular media in the construction of social problems. Explores the solutions aimed at social problems in a comparative, international perspective.

SYG 3235 Latina/Latino Lives WRIN 6ACT (3) AS SOC
An exploration of the experiences of Latinas and Latinos in the United States. Examines such sociological themes as oppression, migration, work, family, activism, spirituality, and sexuality through short stories, poetry, and scholarly research.

SYO 3120 Sociology of Families (3) AS SOC
With a goal to understand American families in the present, this course will examine variations in family types by social class, race, ethnicity, and historical era. Exploration of current controversies about how families should be organized and about what they should do for their members as well as social policies related to families.

SYO 3200 Sociology of Religion (3) AS SOC
PR: SYG 2000
An examination of the meanings of religion lived in experiences in the contemporary United States. Includes the construction and maintenance of religious meanings and communities, the impact of those meanings and communities on daily lives, use and impact of religious discourse in daily lives, social movements motivated by religious beliefs.

SYO 3460 Sociology of the Media (3) AS SOC
Imparts a familiarity with and working knowledge of the main theories, research, and findings in the sociology of the media. Fosters critical thinking abilities by applying this sociological knowledge to the deconstruction of media images.

SYO 3530 Social Inequalities in a Global Society (3) AS SOC
Introduction to the major concepts and theories used to explain inequality. The topics of race, gender, and sexual orientation will be treated in relation to class, rather than as a parallel dimension of stratification.

SYO 4204 Religion and Immigration (3) AS SOC
PR: SYG 2000
This course examines: 1) how immigrant communities have been, and are currently, influenced by religion; and 2) how immigrant communities have transformed, and are currently transforming, the religious landscape of the U.S.

SYO 4250 Sociology of Education (3) AS SOC
PR: SYG 2000
Application of sociological theory to the social institution of education. Primary attention directed toward the social organization of educational systems.

SYO 4400 Medical Sociology (3) AS SOC
PR: SYG 2000
The study of disease and the sick person including the analysis of health practices, beliefs, and practitioners, the hospital as an organization, the cost, financing, and politics of health care.

SYO 4430 Disability and Society WRIN 6ACT (3) AS SOC
PR: SYG 2000
Examination of the applicability of sociological concepts to the experience of disability, and of disability as a means to a better understanding of the nature of social experience.

SYO 4534 Poverty and Society (3) AS SOC
Explores poverty by looking at the United States and selected less developed countries around the world. Utilizing sociological theories of poverty, different aspects of poverty will be explored.

SYO 4536 Inequalities and Social Justice (3) AS SOC
PR: SYG 2000 or SYG 2010
This course draws on the insights of the social sciences and the humanities to understand social inequalities in our global age and to formulate “socially just” responses to those inequalities.

SYO 4572 Hidden Structures of Social Life (3) AS SOC
Communication networks and the social structures that emerge in them constitute the subject matter for this course: structures of internation in informal
groups and formal organizations, social networks, and class and stratification structures.

SYO 4573 Social Networks (3) AS SOC
PR: SYG 2000 and STA 2122 or equivalent.
Examines how relationships among individuals organize larger social systems (such as social groups and communities) and how these patterned relationships impact actors within social systems.

SYP 3000 Social Psychology CASB (3) AS SOC
Course explores social forces shaping individual perceptions/behaviors/personality/identity. Addresses our participation in society, how people influence each other, how we act based on beliefs and why & this is important.

SYP 3004 Constructing Social Problems (3) AS SOC
Examination of how activists, media, politicians, and scientists construct public images of social problems; analysis of the process of forming social policy and how public images of social problems shape the characteristics of social service agencies.

SYP 3060 Sociology of Sexualities (3) AS SOC
Explores the interactions, among and between people, and people and institutions that form the boundaries through which sexualities are understood in the United States. Addresses interactions with and within medical and religious institutions, racial/ethnic cultures, families and popular culture.

SYP 3562 Family Violence (3) AS SOC
An exploration of the complexity of the causes and consequences of physical and emotional violence among family members. Topics include the meanings and behaviors of violence, the process of help-seeking, and social interventions for offenders and victims. Open to nonmajors.

SYP 4012 Emotions in Society (3) AS SOC
Examines the theories, concepts, and larger social contexts of emotions, and investigates sociological research on feelings such as anger and fear; pride and shame; love, friendship and sympathy; sadness and depression; grief and loss.

SYP 4111 Identity and Community (3) AS SOC
This course is a sociological examination of the meanings of identity in the post-modern era. Topics will include the characteristics of identity at the levels of individuals, institutions, culture, and the processes of identity construction and change.

SYP 4420 Consumer Culture WRIN 6ACT (3) AS SOC
PR: SYG 2000
The exploration of how Americans’ purchasing behavior connects to larger historical shifts in our economy, including disenchantment, alienation, inequality, and the rise of the credit card society.

SYP 4510 Sociological Aspects of Deviance (3) AS SOC
The examination of the social construction of deviance: how deviance is defined, implications of deviance designations. Applications of theories of deviance to questions such as motivations of deviants and implications of criminal justice processing of deviants.

SYP 4513 Elite Deviance (3) AS SOC
PR: SYG 2000 or SYG 2010
The course challenges traditional definitions of deviance by examining social harms caused by the very wealthy, corporations, and large organizations such as the federal government.

SYP 4530 Sociology of Juvenile Delinquency (3) AS SOC
Sociological issues in defining delinquency; the nature of adolescence and delinquency; sociological theories of the causes of delinquency; types and consequences of social control applied to delinquents.

SYP 4550 Drugs and Society (3) AS SOC
Examines the social construction of substance use in the United States. Examines individual users and the popular perspectives on the causes of substance use and abuse such as the medical, psychoanalytic, and sociological models.

SYP 4650 Sport in Society (3) AS SOC
An examination of the broad issues concerning sport in both a historical and contemporary perspective. Sport will be viewed in relation to social institutions, economic considerations, mass media, and the sport group as a micro-social system.

SYP 4651 Gender, Sport, and the Body (3) AS SOC
Explores ways sport in U.S. culture is organized by and used to recreate gender in social interaction. Examines the recent history of women in sport and questions the relationship between masculinity, sport participation and women's and men's embodiment.

SYP 4675 Animals & Society GCPC (3) AS SOC
Explores the complex role of non-human animals in human society by exploring how we, as humans, socially construct animals.

SYP 4763 Sociology of Childhood and Youth (3) AS SOC
Examines a variety of issues including: child-rearing; invention of adolescence; child abuse; children's schooling; juvenile delinquency; dating; children in the movies; children as consumers; youth culture and rebellion; transition into adulthood.

TAX 4001 Concepts of Federal Income Taxation (3) BA ACC
PR: ACG 2021 and ACG 2071, with a grade of C
CPR: ACG 3103, with a grade of C
Major concepts used in taxation of income by federal government including enactment of tax
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laws, basic tax research, preparation of basic tax returns and exploration of tax policy issues.

TAX 5015 Federal Taxation of Business Entities (3) BA ACC
PR: TAX 4001 with a grade of C or better, not C-
Tax issues encountered by small businesses. Includes tax planning, capital formation and preservation, tax compliance and tax alternatives.

THE 2020 Introduction to Theatre (3) FA TAR
An introduction to the art of theatre as part of the larger context of the nature of art itself. The approach will be both chronological and multicultural. Required of all theatre majors.

THE 2252 Great Performances on Film CAFA HHCP (3) FA TAR
This class traces the evolution of acting styles as evidenced through 100 years of cinema, and explores how movies and actors have mirrored or influenced cultural, political, and social change.

THE 2305 Script Analysis (3) FA TAR
This course teaches theatre students the techniques of close reading of dramatic texts.

THE 3110 Theatre History I CPST HHCP (3) FA TAR
The study of theatrical production in its cultural context, including theatre architecture, scenography, acting and directing from Greek antiquity to the Elizabethan era. Normally fifteen plays will be read.

THE 3111 Theatre History II CPST HHCP (3) FA TAR
A study of theatrical production in its cultural context including theatre architecture, scenography, acting and directing from Shakespeare to the contemporary stage. Normally fifteen plays will be read.

THE 4174 New British Theatre and Drama 6ACT (3) FA TAR
PR: THE 2305
A study of contemporary theatrical practice and key dramatic texts in the British Isles. This course is restricted to majors.

THE 4180 Theatre Origins 6ACT (3) FA TAR
An analysis of the development of theatre out of myth, ritual, and liturgy. Emphasis placed on what attempts to understand the resulting phenomena (e.g. Aristotle’s Poetics) can teach us about the nature of our art. Either THE 4180 or THE 4562 is required of all theatre majors.

THE 4264 History of Costume (3) FA TAR
A survey of clothing and dress from Ancient Egypt to the 20th Century with an emphasis on cultural and social influences. (A requirement in the design track/costume.)

THE 4283 Architecture And Decoration (3) FA TAR
A survey of architecture and furniture from ancient Egypt to the 20th Century. (A requirement in the design track/scenic.)

THE 4330 Shakespeare for the Theatre WRIN HHCP 6ACT (3) FA TAR
Study of select Shakespeare plays through current and past performance. Examination of texts, filmed rehearsals, scholarly sources, and commercial movies. Performance required in face to face sections.

THE 4401 American Drama WRIN HHCP 6ACT (3) FA TAR
THE 4401 examines seminal American plays and high quality film adaptations derived from them. Each play is examined as a script for performance and as an object in an aesthetic, social and historic context.

THE 4434 Caribbean Theatre CPST 6ACT (3) FA TAR
PR: THE 2305 and THE 3110 or THE 3111.
A study of plays and popular theatrical forms of the Caribbean including carnival and calypso. The student will investigate the social and political forces that shape the culture of the Caribbean.

THE 4480 Drama-Special Topics (3) FA TAR
PR: THE 3110 or THE 3111.
A study of a significant playwright or grouping of playwrights, e.g. Moliere, Brecht, recent American dramatists.

THE 4562 Contemporary Performance Theory CPST HHCP 6ACT GCPC (3) FA TAR
A seminar for advanced students focusing on theatrical and dramatic theory in relation to actual stage practice.

THE 4574 Sport as Performance CPST (3) FA TAR
Students will use contemporary theory to critique and analyze the interconnected elements of athletic and stage performance, including the athlete/artist, stadium/stage and audience/spectator. Spanning topics from the body to the arena, team mascots, professional wrestling and social media, the course will inform and expand our knowledge in both disciplines.

THE 4593 Honors Seminar (2) FA TAR
Readings in the literature, history and theory of the stage in preparation for Theatre Honors Practicum. Past topics have included New German Theatre, Popular Theatre, New American Theatre, Jacobean Theatre.

THE 4594 Honors Practicum (3) FA TAR
PR: THE 4593.
Honors Practicum grows out of the Honors Seminar and engages students in workshops or production with guest artists. Past artists have included the Free Theatre of Munich, the San
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Francisco Mime Troupe, playwrights Eric Overmeyer, Jeff Jones and Gary Hill.

THE 4595 Honors Thesis (1-3) FA TAR
PR: THE 4594.
A practical or written thesis related to the seminar and practicum and approved by the departmental honors committee.

THE 4905 Directed Studies (1-4) FA TAR
Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 4930 Selected Topics In Theatre (1-3) FA TAR
The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format.

THE 5909 Directed Studies (1-6) FA TAR
Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 5931 Selected Topics In Theatre (1-8) FA TAR
The content of the course will be governed by the student demand and instructor interest. May be lecture or class discussion or studio format.

TPA 2200 Introduction to Technical Theatre I (3) FA TAR
CR: TPA 2290L
An introductory course in technical production including coursework in the areas of scenic construction, theatre production/organization, and sound. Required for Theatre majors. Requires sequential semester enrollment with TPA 2211 and TPA 2291L. Open to non-majors.

TPA 2211 Introduction to Technical Theatre II (3) FA TAR
CR: TPA 2291L
An introductory course in technical production including stage lighting, costume construction, and sound. Required for Theatre majors. Requires sequential semester enrollment with TPA 2200 and TPA 2290L. Open to non-majors.

TPA 2220 Introduction to Technical Theatre III (3) FA TAR
CR: TPA 2220L
An introductory course designed to acquaint students with a working knowledge of the basic skills, equipment and terminology in stage lighting production. Open to non-majors.

TPA 2220L Technical Theatre Lab III (1) FA TAR
CR: TPA 2220
A practical laboratory providing an understanding of the duties associated with lighting crews through hands on production experiences. Open to non-majors.

TPA 2248 Workshop In Stage Makeup (1) FA TAR
Beginning theory and practice in make-up for the stage. Open to non-majors. Theatre majors given preference. A studio course.

TPA 2290L Technical Theatre Lab I (1) FA TAR
CR: TPA 2200
A practical laboratory involving the pre-performance preparation of all technical aspects of a major production such as: painting, sewing, lighting, and sound. Students are assigned two areas of study per semester. Required of all Theatre majors. Open to non-majors.

TPA 2291L Technical Theatre Lab II (1) FA TAR
CR: TPA 2211
A practical laboratory involving the pre-performance preparation of all technical aspects of a major production such as: painting, sewing, lighting, and sound. Students are assigned two areas of study per semester. Required of all Theatre majors. Open to non-majors.

TPA 2292 Production Involvement I (1) FA TAR
PR: TPA 2200, TPA 2290L, TPA 2211, TPA 2291L
The rehearsal, construction, and performance of major theatrical works. Assignments are made by a faculty committee following the students completion of a PI request form, available in the Theatre Office, and enrollment in this course.

TPA 3007 Introduction to Design I (3) FA TAR
PR: TPA 2200, TPA 2211, TPA 2290L, and TPA 2291L.
This course will include lectures, demonstrations, individual student presentations, and studio activities. The course work will provide an introduction to the various aspects of design including: two and three dimensional design, basic presentation and visual communication skills, research, and project analysis/organization.

TPA 3008 Introduction to Design II (3) FA TAR
PR: TPA 3007.
This course will include lectures, demonstrations, individual student presentations, and studio activities. The course work will provide an introduction to the various aspects of design including: two and three dimensional design, basic presentation and visual communication skills, research, and project analysis/organization. Open to non-majors.

TPA 3208 Drafting and CAD I (3) FA TAR
PR: TPA 2200, TPA 2211, TPA 2290L and TPA 2291L.
The course will include lectures, demonstrations, individual student presentations, and studio activities. The course work will provide an opportunity to develop skills and techniques in the visual presentation of various design and technical draftings. Open to non-majors.

TPA 3223 Lighting: Theory And Practice (3) FA TAR
Intermediate lighting design course concerned with graphic presentations, color theory, design concepts, and practical experience with computer lighting systems. A requirement in the design track/lighting.

TPA 3231 Costume Construction (3) FA TAR
PR: TPA 3208
A practical course in the drafting of patterns for costuming the actor. Materials, skills, and techniques for construction of costumes and
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TPA 4045 Costume Design (3) FA TAR
PR: TPA 3208
Continuation of TPA 3208. The course will include lectures, demonstrations, field trip(s), individual student presentations, and studio activities. The course work will provide an opportunity to develop your skills and techniques in the visual presentation of various design and technical draftings. Open to non-majors.

TPA 3265 Sound For The Stage (3) FA TAR
PR: TPA 2200, TPA 2290L, TPA 2211, and TPA 2291L.
Basic study of audio components, fundamental properties of sound, multiple channel recording, editing, reproduction and reinforcement. Methods and techniques used in theatre to create sound effects.

TPA 3296 Design Practicum (2) FA TAR
PR: TPA 3008.
This is a studio/laboratory course in the practical aspects of production. The course is intended to provide realized production experience to the advanced theatre design student in such areas as costume, lighting, and scenic design; stage properties design; technical direction; and theatrical production craft/skill areas. The student will be individually mentored by a faculty member through the process of developing and realizing a production design/craft/skill.

TPA 3601 Stage Management (2) FA TAR
PR: TPA 2200, TPA 2290L, TPA 2211, and TPA 2291L.
A practical course in the working organizational function of the stage manager in theatre, dance, opera, and other live performance situations.

TPA 4011 Design Studio I (3) FA TAR
PR: TPA 3008 and TPA 3208 plus two of TPA 3231, TPA 3221, or TPA 3251.
TPA 4011 will include studio design project activities in the areas of costume, lighting, and scenic design. The course work will stress the nature of collaborative work and the various stages and processes involved with the development of a design from the first meeting to the final paper/model design. Evaluation of the project will emphasize the process followed in the development of the design including thumbnail/idea sketching, research, and production concept. The course will include seminar (production) discussions, lectures, demonstrations, individual and group work, and individual student presentations.

TPA 4077 Scene Painting (2) FA TAR
PR: TPA 3007
A practical course in the painting of stage scenery; media and application.

TPA 4273 Stage Properties: Techniques And Materials Studio (2) FA TAR
PR: TPA 3007
Demonstration of and experience with materials used in construction of stage properties. Modeling of prototypes and basic casting techniques. Organization of shop.

TPA 4293 Production Involvement II (1) FA TAR
PR: TPA 2292
The rehearsal, construction, and performance of major theatrical works. Assignments are made by a faculty committee following the student's completion of a PI request form, available in the Theatre Office, and enrollment in this course.

TPA 4298 Advanced Design Practicum (3) FA TAR
PR: TPA 4011.
This is a studio/laboratory course in the practical aspects of production. The course is intended to provide realized production experience to the advanced theatre design student in such areas as costume, lighting, and scenic design; stage properties design; technical direction; and theatrical production craft/skill areas. The student will be individually mentored by a faculty member through the process of developing and realizing a production design/craft/skill.

TPA 4299 Production Involvement II (1) FA TAR
The rehearsal, construction, and performance of major theatrical works. Assignments are made by a faculty committee following the students completion of a PI request form, available in the theatre office, and enrollment in this course.

TPP 2110 Acting I (3) FA TAR
Exploring the elements basic to acting skills, a participation course. Required of all theatre majors. Open to non-majors.

TPP 2190 Studio Theatre Performance I (1) FA TAR
A practical laboratory involving the rehearsal and performance of a major production. Activities may include acting, directing, stage management, and the activities of the performance production crews. Placement by audition. If cast in production student must accept role. Required of all Theatre
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TPP 2500 Movement for Actors (3) FA TAR
PR: TPP 2110
A laboratory course in various disciplines or systems and understanding the body’s motive powers, with focus on their use for the stage performer.

TPP 3121 Improvisation I (3) FA TAR
PR: TPP 2110.
An intensive study in improvisation as an enhancement of the actor’s skill. Exercises and theatre games as flexible forms which accommodate improvisation and physical invention are examined and used to develop group creativity.

TPP 3155 Acting II (3) FA TAR
Identify and investigate the fundamental elements of acting as applied to scene exploration, rehearsal, and presentation.

TPP 3230 Laboratory Workshop In Performance (3) FA TAR
PR: TPP 2110
The content of the course will be governed by student demand and instructor interest.

TPP 3580 Special Skills In Movement (3) FA TAR
PR: TPP 2110
Stage combat, circus and acrobatic techniques, and other special techniques of movement.

TPP 3790 Voice for Actors (3) FA TAR
PR: TPP 2110
A concentrated laboratory on freeing the breathing function, developing body and oral resonance, and strengthening muscles used on the formation of speech sounds.

TPP 4140 Styles of Acting (3) FA TAR
PR: TPP 4180
Examination of the actor’s craft and skills needed to fulfill the demands of classical theatre forms.

TPP 4180 Acting III (3) FA TAR
PR: TPP 3155
An acting workshop focusing on application of character development and rehearsal techniques over a sustained period leading toward a project showing at semester’s end.

TPP 4193 Studio Theatre Performance II (1) FA TAR
PR: TPP 2190.
A practical laboratory involving the rehearsal and performance of a major production. Activities may include acting, directing, stage management, and the activities of the performance production crews. Placement by audition. If cast in production student must accept role. Required of all Theatre majors. May be repeated. Open to non-majors with CI.

TPP 4221 Audition Workshop for Actors (3) FA TAR
PR: TPP 3155 or TPP 3921.
Preparation for professional audition; discussion of professional objectives.

TPP 4310 Directing I (3) FA TAR
PR: TPP 3155 or TPP 3230.
An elective sequence in directing. A workshop course in which the student first encounters the basic tasks of the director by preparing and directing one or two scenes and then progresses to more complex scene work in a variety of styles and finally proceeds to the short play or theatre pieces.

TPP 4311 Directing II (3) FA TAR
PR: TPP 4310
An elective sequence in directing. A workshop course in which the student first encounters the basic tasks of the director by preparing and directing one or two scenes and then progresses to more complex scene work in a variety of styles and finally proceeds to the short play or theatre pieces.

TPP 4600 Writing For The Theatre (3) FA TAR
PR: TPP 3110 or THE 3111.
An elective sequence in writing, in which the student first encounters the problems unique to dramatic language and situation, then progresses to complexities of character, plot, and stage dynamics. Normally the aim would be to complete several performance-worthy self-contained scenes.

TPP 4920 Senior Workshop For Actors (3) FA TAR
PR: TPP 2500, TPP 3790, TPP 3155, or TPP 3921.
A workshop in advanced vocal and movement techniques.

TPP 4923 Music Theatre Workshop (3) FA TAR
PR: TPP 2110
Exploration of Musical Theatre materials and performance techniques for the performer. Individual and ensemble work.

TSL 4080 ESOL 1 - Curriculum and Pedagogy of ESOL (3) ED TAL
This course is designed to prepare pre-professional (pre-service) teachers to provide linguistically and culturally appropriate instruction, learning opportunities and assessment for English Language Learners (ELLs) in grades K-12.

TSL 4081 ESOL 2 - Literacy Development in English Language Learners (3) ED TAL
PR: TSL 4080 or FLE 4317.
This course is designed to provide students with a critical understanding of instructional delivery which caters to the linguistic and literacy needs of minority/heritage communities. Providing students with a sociocultural-critical theoretical framework. 

TSL 4251 ESOL 3 - Applying Linguistics to ESOL Teaching and Testing (3) ED TAL
PR: TSL 4080 and TSL 4081.
This course provides an overview of the components of language, linking them to methods and techniques of providing comprehensible instruction to English Language Learners (ELLs) and supports the development of professional literacy skills.

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TSL 4324 ESOL Competencies and Strategies (1-3) ED TAL
Designed to enable participants to meet the special limitations and cultural educational needs of LEP students in content area classes. Designed to provide a theoretical and practical foundation for ESOL competencies and strategies.

TSL 4362 Methodology of Teaching English Overseas (3) AS WLE
Designed to introduce and prepare the enrollee in the various facets of teaching English as a foreign language in the overseas setting. It will include aspects of teaching verbal skills and comprehension as well as writing. It involves a practicum at the English Language Institute on campus.

TSL 5085 ESOL I - Theory and Practice of Teaching English Language Learners (3) ED TAL
This course is for undergraduate degree holding, preprofessional (preservice) teachers to learn about appropriate instruction, assessment and learning opportunities for Limited English Proficient (LEP) students in the content areas.

TSL 5086 ESOL II-Secondary Language & Literacy Acquisition in Children & Adolescents (3) ED TAL
PR: TSL 5085.
This course is designed to provide students with a critical understanding of instructional delivery which caters for the linguistic and literacy needs of minority / heritage communities.

TSL 5242 ESOL III-Language Principles, Acquisition & Assessment for English Language Learners (3) ED TAL
PR: TSL 5086.
This course provides an overview of the components of language, linking them to methods and techniques of providing comprehensible instruction to LEP students.

TSL 5325 ESOL Strategies for Content Area Teachers (3) ED TAL
Course designed for public school teachers working with limited English Proficient (foreign) students in the classroom. The new ESOL requirements specify that this course be offered to content area teachers and to ESOL teachers.

TSL 5326 L2 Reading for ESOL Students across Content Areas (3) ED TAL
This ESOL course will provide students with understanding of the linguistic and literacy needs of minority/heritage students, and will negotiate issues of second language learning, language varieties, as well as critical literacy and reading.

TSL 5371 Methods of Teaching English As A Second Language (3) AS WLE
Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.

TSL 5372 ESOL Curriculum and Instruction (3) AS WLE
Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.

TSL 5440 Language Testing (3) AS WLE
PR: TSL 5371.
Lecture course on testing English as a second/foreign language.

TSL 5525 Cross-Cultural Issues in ESL (3) AS WLE
PR: LIN 5700.
Lecture course on cultural issues in Teaching English as a Second/Foreign language.

TSL 5940 ESOL Practicum (1-3) ED TAL
PR: FLE 5345 and FLE 5145.
This course is restricted to Education majors and will not be repeatable for credit. A structured field experience with Limited English Proficient students.

TTE 4003 Transportation and Society (3) EN EGX
This course provides a multidisciplinary introduction to transportation and its impacts on society. It explores how transportation interacts with the economy, the environment and the social and political nature of society.

TTE 4004 Transportation Engineering I (3) EN EGX
PR: EGN 3321.
Principles of surface transportation system development, design, and operations; administration, modal characteristics, capacities, and functional classifications; vehicle kinematics, human factors and minimum design standards; traffic flow theory and queuing, capacity and signalization; transportation planning and economics.

TTE 4005 Transportation Engineering II (3) EN EGX
PR: TTE 4004.
Techniques for the geometric route design of surface transportation systems; horizontal and vertical alignments. Spiral curves, superelevations and earthwork analysis; drainage, soils, and a rigid and flexible pavement design; right-of-way acquisition and Environmental Impacts; site layout & design, and operation of alternate models including bus, air, rail, water, and pipeline facilities and terminals.

TTE 5205 Traffic Systems Engineering (3) EN EGX
PR: TTE 4004 or equivalent.
Traffic models, intersection analysis, capacity analysis, data methods collection, parking studies, volume and speed studies, freeway management, and advanced technologies.

TTE 5305 Infrastructure System Management (3) EN EGX
PR: EGN 3443
This course introduces analytical methods for the management of infrastructure systems over their life, focusing on pavement. Topics covered include data measurement and sampling, performance modeling, and maintenance strategies.
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**TTE 5501 Transportation Planning and Economics (3) EN EGX**  
PR: College Algebra  
Fundamentals of urban transportation planning: trip generation, trip distribution, modal split, traffic assignment. Introduction to environmental impact analysis, evaluation an choice of transportation alternatives.

**TTE 5620 Air Transportation (3) EN EGX**  
This is a course for graduate students in the College of Engineering who are interested in air transportation. It covers topics such as, airport management, air traffic flow management, air transport economics, and etc. No registration restrictions.

**URP 4050 City Planning and Community Development (3) AS SPF**  
An introduction to the development, role, and components of city planning, and the political and actual policies of government in attempting to regulate or control urbanization.

**URP 4052 Urban and Regional Planning (3) AS SPF**  
Examination of current urban planning and policy issues and debates, such as metropolitan organization and governance, economic development and growth management, edge cities, planning for environmental sustainability.

**URS 3002 Introduction to Urban Studies (3) AS SPF**  
An interdisciplinary introduction to the process of urbanization and the diverse communities it has created. Urban areas in the United States, as well as global cities, will be examined.

**URS 4930 Special Topics in Urban Studies (3) AS SPF**  
Selected issues and topics in Urban Studies with course content based on student demand and instructor’s interest. May be repeated as topics vary.

**VIC 3001 Introduction to Visual Communications (3) AS MCM**  
PR: MMC 2100 and MMC 3602.  
Survey of visual communication theory, techniques and contemporary application in the visual media. Critical examination of visual communication in newspapers, magazines, television, motion pictures and new media.

**VIC 3943 Visual Communication Practicum (1) AS MCM**  
Practical experience outside the classroom where the student works for academic credit under the supervision of a professional practitioner. Periodic written and oral reports to the faculty member coordinating the study.

**WOH 2022 Global History since 1750 CAGC HHCP (3) AS HTY**  
This course offers an introduction to the major themes and events in modern global history from 1750 to the present.

**WOH 3209 Terrorism in World History (3) AS HTY**  
This course examines the history of terrorism from the first century A.D. to the present and explores the historical context and consequences of terrorist movements in their historical milieu.

**WOH 3245 History of Sports from National to Global Contexts GPC (3) AS HTY**  
This class will analyze the development of modern sports (soccer, baseball, basketball, netball, tennis) in the Americas. Students will discuss the meaning of sports in modern culture, from the end of the nineteenth century to globalization.

**WOH 3293 Islam in World History (3) AS HTY**  
This course examines the origins, spread, and development of Islam within the context of the main global historical processes and events of the past 1500 years.

**WST 2250 Female Experience in America CAHU HHCP (3) AS WST**  
This course explores the lives and experiences of women and girls in America from 1870 to the present, examining how issues of gender, race, class, ethnicity, and sexuality shaped both their experiences and our historical understanding of their lives.

**WST 2600 Human Sexual Behavior CASB (3) AS WST**  
The dynamics of human sexuality: biological, constitutional, cultural, and psychological aspects. The range of sexual behavior across groups. Sources of beliefs and attitudes about sex, including sex roles and especially human sexuality.

**WST 3015 Introduction to Women’s Studies CASB (3) AS WST**  
This course introduces the interdisciplinary field of Women’s Studies through a critical examination of the way gender, race, class and sexuality are socially constructed and demonstrates how activism is inherent in Women’s Studies discourse.

**WST 3210 European Feminist History: Pre-18th Century 6ACT (3) AS WST**  
Survey of European feminist history prior to the 18th century (focusing primarily on Western Europe). Examines women’s lives, roles, ideas, as well as origins of Western attitudes toward relation of power to gender, race and class. No prerequisites.

**WST 3220 European Feminist History: Enlightenment to the Present (3) AS WST**  
A survey of European feminist history from the 18th century through the 20th century (focusing primarily on Western Europe). Examining women’s lives, roles and ideas, as well as the dominant attitudes toward women over this time period.

**WST 3311 Issues in Feminism CASB (3) AS WST**  
Survey of major issues relevant to the female experience: marriage and the family, sexuality, work, creativity.
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**WST 3324 Women, Environment and Gender CANL (3) AS WST**
PR: BSC 1005 or BSC 2010, any Introductory science course from biology, chemistry, physics, public health or WST 4320.
Investigation of intersection of women's studies, gender and environment with focus on women's health. Exploration of hypothesis formulation and testing, current issues.

**WST 3370 Women and Social Action (3) AS WST**
Course focuses on ordinary women working collectively in diverse social settings to empower themselves and others to challenge gender stereotypes; to reduce harassment, poverty, violence and homelessness; to enhance healthcare and family life and to confront barriers in education, the media and the criminal justice system.

**WST 3412 Women in the Developing World (3) AS WST**
Survey of status of women in Asia, Africa, Latin and Caribbean America, compared to that in USA, Canada, West Europe, Marxist-Leninist countries. (May also be taken for credit in Government and International Affairs.)

**WST 3620 Men and Sexism (3) AS WST**
Ways in which sex role conditioning affects the lives of men. Factors in this conditioning and alternatives to masculine sex role models.

**WST 4002 Feminist Research Methods (3) AS WST**
PR: WST 3015.
The survey, design, and practice of qualitative and quantitative methods in feminist research. Restricted to majors; non-majors by permission of instructor.

**WST 4110 Women and Social Justice (3) AS WST**
PR: WST 3015
This course examines the complexities of transnational social justice for women by investigating health, violence, reproduction and work within the context of international human rights law, nationalist policies, and global capitalism.

**WST 4262 Literature by Women of Color in the Diaspora WRIN 6ACT (3) AS WST**
An introduction to contemporary women writers of color in the U.S.: Native Americans, African Americans, Asian Americans, and Chicanas/U.S. Latinas. Readings will include literature and contextual articles on historical and cultural issues.

**WST 4310 History of Feminism in the U.S. 6ACT (3) AS WST**
A study of feminist critiques of American women's experiences and status, and their implications for women's lives, by 19th- and 20th-century theorists, and how adequately these various critiques address the intersections of gender, class, ethnicity, and race.

**WST 4320 Politics and Issues in Women's Health CASB (3) AS WST**
This course will focus on celebrating women's health and wholeness: mental, physical, emotional, spiritual, social, economic, and understanding the potential negative effects of institutional and interpersonal oppression on health and wellness.

**WST 4335 Women and Film (3) AS WST**
A study of representation of women in films and the responses of feminist film theorists and filmmakers.

**WST 4350 Women and Science (3) AS WST**
An examination of selected issues related to women and the natural and physical sciences including: historical participation of women in science, current status of women in science, and feminist critiques of science as a discipline.

**WST 4410 Postcolonial Women Writers (3) AS WST**
Introduces the literature of women from various Anglophone countries in Africa, the Caribbean, and South Asia; some U.S. writers will be included to represent a third world diasporic consciousness.

**WST 4522 Classics in Feminist Theory CAHU (3) AS WST**
Introduces students to first and second wave feminist theories, which explain the pervasiveness of sexist, racist, classist, heterosexist bias in our everyday lives.

**WST 4561 Contemporary Feminist Theory (3) AS WST**
PR: one upper division Women's Studies course. An exposure to and an exploration of a wide range of current feminist theories and debates, as well as an examination of the possible political and practical implications for various theoretical positions.

**WST 4900 Directed Readings (1-3) AS WST**
To provide advanced students with interdisciplinary research experience in areas of specific interest.

**WST 4910 Directed Research (1-3) AS WST**
To provide advanced students with interdisciplinary research experience in areas of specific interest.

**WST 4930 Selected Topics (1-3) AS WST**
Study in special areas such as Women and Work, Reproductive Law, Women and Health.

**WST 4935 Capstone/Senior Project CPST (3) AS WST**
PR: 24 credit hours in Women's Studies. Recognizing the interplay between personal connections and intellectual experience, this capstone course is designed to focus on topical areas related to women's studies and facilitate linking student learning experience to future plans.

**WST 4940 Internship in Women's & Gender Studies (1-3) AS WST**
PR: 12 credits of Women's Studies courses. Supervised work-and-learning experience in women's and gender studies under the direction of
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a University faculty member/administrator and an employee of a sponsor organization. Restricted to majors only. Repeatable once for a total of 6 credit hours.

WST 5308 Feminist Spirituality (3) AS WST
Open to non-majors. Focuses on the many voices of contemporary feminist spirituality, emerging from women's experiences in diverse religious, ethnic and cultural traditions, and representing a range of theoretical perspectives from biblical feminism to goddess worship and wicca.

WST 5934 Selected Topics (1-4) AS WST
Study of current research methods and scholarship on women from a multidisciplinary perspective.

WST 5940 Internship in Women's Studies (3-6) AS WST
Student placement in an approved intern setting for a minimum of 240 hours of supervised experience. S/U only.

ZOO 2303 Vertebrate Zoology (3) AS BIN
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L.
The origin, diversity, and adaptations of the vertebrates. Phylogenetic systematics (cladistics) will be used as the basis for determining evolutionary relationships of organisms. Monophyletic groupings provide a framework for examining behavior, physiology, and ecology in an explicit evolutionary context. Vertebrates common to Florida and the southeastern United States will be emphasized.

ZOO 2710C Anatomy of Chordates (4) AS BIN
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L.
Anatomy of selected vertebrate types emphasizing evolutionary trends. Lec.-lab.

ZOO 3205C Advanced Invertebrate Zoology (4) AS BIN
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L.
Anatomy of selected invertebrate taxa. Lec.-lab.

ZOO 3407L Biology of Sharks and Rays Laboratory (1) AS BIN
CPR: ZOO 3407
The laboratory portion of ZOO 3407 Biology of Sharks and Rays.

ZOO 3713C Comparative Vertebrate Anatomy (5) AS BIN
PR: BSC 2010, BSC 2010L, BSC 2011, BSC 2011L & CHM 2045, CHM 2046 & MAC 1105 or higher-level MAC course, or STA 2023
Anatomy of selected vertebrate types emphasizing evolutionary trends. Lecture and Laboratory.

ZOO 4233 Parasitology (3) AS BIN
PR: BSC 2011, BSC 2011L and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023.
CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.
Fundamentals of animal parasitology and parasitism, the biology of selected animal parasites, including those of major importance to man. Lecture and laboratory.

ZOO 4377 Functional Morphology (3) AS BIN
PR: ZOO 3713C
This course explores the relationship between vertebrate form and function; basic concepts of biomechanics; responses of vertebrate form to ecological and evolutionary constraints.

ZOO 4454 Fish Biology (3) AS BIN
PR: ZOO 3713C or PCB 3712 or BSC 2094C or ZOO 2303.
Covers the systematics, anatomy, physiology, reproductive biology, behavior and ecology of fish.

ZOO 4454L Fish Biology Lab (1) AS BIN
PR: ZOO 4454.
This is a lab course in fish biology designed to familiarize undergraduate students with the anatomy, ecology, behavior, and classification of fishes.

ZOO 4512 Sociobiology (3) AS BIN
An analysis of Animal and human behavior such as sex, territoriality, and aggression in the context of evolution.

ZOO 4513 Animal Behavior (3) AS BIN
PR: PCB 3023 or PCB 3043 or PCB 3063 & CHM 2210 & MAC 1105 or higher-level MAC course or STA 2023
CPR: CHM 2211.
An introduction to comparative animal behavior, with analysis of types of animal behavior, their function and evolutionary origin. Lecture only.

ZOO 4694 Developmental Biology (3) AS BCM
PR: PCB 3023 with a minimum grade of C-, PCB 3063 with a minimum grade of C-, CHM 2046 with a minimum grade of C- or Chemistry with a minimum score of 5
This course will use a problem solving approach to provide fundamental knowledge of scientific concepts and principles involved in the
mechanisms underlying patterns of embryonic development for majors/nonmajors

ZOO 4753 Human Histology & Molecular Pathology of Disease (3) AS BCM
PR: PCB 3023, PCB 3063, CHM 2210
The study of cellular and molecular mechanisms underlying various disease states of the human body present in the context of traditional pathology.

ZOO 4753L Human Histology & Molecular Pathology of Disease Laboratory (1) AS BCM
CR: ZOO 4753
Laboratory associated with Human Histology and Molecular Pathology of Disease.

ZOO 5456L Ichthyology Lab (1) AS BIN
CPR: ZOO 5456
Laboratory portion of Ichthyology relating to evolution, systematics, structure, behavior, physiology and ecology of fishes.

ZOO 5463C Herpetology (4) AS BIN
Major aspects of amphibian and reptilian biology emphasizing fossil history, evolutionary morphology, sensory physiology, life history and reproductive behavior. Lec.-lab. Field trip.

ZOO 5555C Marine Animal Ecology (4) AS BIN
PR: PCB 3043
Investigation of energy flow, biogeochemical cycles, and community structure in marine environments. Lec.-lab.