411 Introduction to Geographic Information Science (3) Concepts and methods of spatial analysis and their application using geographic information systems software and techniques. Emphasizes both theoretical and applied aspects of GIS. 2 hours lecture and 2 hours lab. Prereq: 310 or consent of instructor.

412 Advanced Cartography Techniques (3) Cartographic design and data display techniques for reference and thematic maps. Basic principles and methods of map reproduction. 2 hours lecture and 2 hours lab per week. Prereq: 310 or consent of instructor.

413 Remote Sensing: Types and Applications (4) Principles and uses of remote sensing imagery, digital data, and spectral data, with particular emphasis on geographic interpretation and mapping techniques. 3 hours lecture and 2 hours lab per week. Prereq: 310 or consent of instructor.

414 Spatial Databases and Data Management (3) Types, sources, acquisition, and documentation of spatial data. Spatial database management methods and strategies for data sharing. 2 hours lecture and 2 hours lab. Prereq: Geography 411 or consent of instructor.

415 Quantitative Methods in Geography (3) Geographic application of statistical techniques, point pattern analysis, and analysis of areal units. Prereq: Mathematics 115 or Statistics 201 or consent of instructor.

419 Practicum in Cartography/Remote Sensing (2-6) Supervised practice in design and production of maps and other graphic materials in the Cartographic Services Laboratory or a similar organization. Prereq: Written consent of department prior to registration.

421 Geography of Folk Societies (3) Geographical study of folk culture, emphasizing traditional material culture and rural settlement, with examples drawn from eastern North America and selected foreign areas.

423 Geography of American Popular Culture (3) Geographical study of regional variation in popular cultures, especially focused on youth cultures in the United States. Writing-emphasis course. (Same as American Studies 423.)

424 Dendrochronology (4) Principles, techniques, and interpretation in tree-ring science. Applications in geography, climate, ecology, forestry, archaeology, and earth sciences. 3 hours lecture and 2 hours lab per week. Prereq: 131-132 or consent of instructor.

433 The Land-Surface System (3) Characteristics of surface form, water, vegetation, and surface materials, and their regional interrelationships. People as evaluators and agents of change. Prereq: 131-132 or consent of instructor.

434 Climatology (3) General circulation system leading to world pattern of climates. Climatic change and modification, and interrelationships of climate and human activity. Prereq: 131 or consent of instructor.

438 Biogeography (3) Study of the changing distribution patterns of plants and animals on a variety of spatial and temporal scales. The effects of continental drift, Pleistocene climatic change, and human activity on world biota are emphasized. Prereq: 131-132 or consent of instructor.

450 Process Geomorphology (3) (See Geology 450.)

454 Terrain Analysis (3) Analysis of landscape history from digital elevation datasets and traditional topographic maps. Basement materials and structures; and erosional and depositional evidence, including fluvial, glacial, aeolian, and shoreline features, of past climatic and biological regimes. Prereq: 131-132 or Geology 101-102 or Geology 107-108.

466 Teaching and Learning Geography (3) Preparing prospective teachers in the content, skills, strategies, and understandings needed for the effective teaching and assessment of geography in the K-12 schools. Course organization and content based largely on that of the National Geography Standards.

490 Internship (3) Career-related experience with business, nonprofit, and government organizations. For geography majors. Prereq: Prior written permission of geography department head or authorized internship director. May be repeated. Maximum 6 hours. Satisfactory/No Credit grading only.

491 Foreign Study (1-15) Prereq: Written consent of department required prior to registration.

492 Off-Campus Study (1-15) Prereq: Written consent of department required prior to registration.

493 Independent Study (1-15) Prereq: Written consent of department required prior to registration.

494 Undergraduate Research Experience (1-3) Supervised participation in active research projects. Prereq: Consent of department head. May be repeated once. Maximum 6 hours. Satisfactory/No Credit grading only.

495 Special Topics in Geography (1-4) Topics vary. Prereq: Consent of instructor. May be repeated with consent of instructor. Maximum 8 hours.

497 Honors: Senior Thesis (3) Students develop undergraduate thesis topic under the guidance of a faculty advisor. Prereq: Open to second semester juniors and first semester seniors who have a 3.2 or better overall GPA and permission of the thesis advisor.


499 Proseminar in Geography (3) Major themes in geography, especially trends over the past 40 years. Required for majors. Not open to graduate students. Writing-emphasis course. Prereq: Senior standing and completion of at least 12 hours of major or minor requirements in geography.

GEOLOGY (424)

101 The Dynamic Earth (4) Physical processes within and upon the Earth’s surface, including the formation of rocks, plate tectonics, and landscapes. 3 hours lecture and one 2-hour lab or field period. (NS)

102 Earth, Life, and Time (4) Fossils, evolution and ancient environments, plus a review of 4.5 billion years of earth history. 3 lecture hours and one 2-hour lab or field period. (NS)

103 The Earth’s Environments (4) Contemporary problems and solutions related to nature and human disturbance of the environment. Topics include: natural hazards, global climate change, pollution, resource depletion. 3 lecture hours and one 2-hour lab or field period. (NS)

107 Honors: The Dynamic Earth (4) Laboratory and field emphasis to understanding physical processes, including the formation of rocks, plate tectonics, earthquakes, and landscapes. 3 hours lecture, One 2-hour lab, and 2 field trips. Consult current College of Arts and Sciences guidelines. Students may not receive credit for both Geology 101 and 107. (NS)

108 Honors: Earth, Life, and Time (4) Laboratory and field emphasis to understanding fossils, evolution, and ancient environments throughout 4.5 billion years of Earth history. 3 hours lecture, One 2-hour lab, and 2 field trips. Prereq: Grade of B or better in Geology 107, grade of A in Geology 101, or permission of the instructor. Students may not receive credit for both Geology 102 and 108. (NS)

201 Biodiversity: Past, Present, and Future (3) Introduction to how biodiversity has changed through time, especially past mass extinctions and current extinctions from human activities. Topics include measurement of biodiversity, how biodiversity originates, and the dynamics of extinction. May not be applied toward the geology major. (NS)

202 Earth as an Ecosystem: Modern Problems and Solutions (3) Study of the earth as an integrated system between physical and biological processes. Focus is on human disturbances such as habitat destruction and pollution. No prerequisite. May not be applied toward geology major. (NS)
203 Geology of National Parks (3) Geologic principles, processes, and earth materials responsible for the spectacular landscapes of national parks. Focus on interactions among internal earth processes, surficial earth processes, and human interactions. 3 lecture hours; plus an optional field trip. May not be applied toward the geology major. Writing-emphasis course. (NS)

205 Age of the Dinosaurs (3) Survey of the major groups of dinosaurs: skeletal structure, ecology, environments, evolutionary history, and extinction. May not be applied toward the geology major.

310 Mineralogy (4) Introduction to the concepts of crystal chemistry, x-ray diffraction, optical mineralogy, and geochemical analysis of the important rock-forming minerals. Laboratory includes hand-specimen, x-ray diffraction, and microscopic identification of minerals. 3 hours lecture and one 2-hour lab. Prereq: two 100-level geology courses and Chemistry 120, or consent of the instructor.

320 Paleobiology (4) Critical analysis of the preserved record of ancient life, with emphases on recognition of evolutionary patterns, processes, and extinctions; interpretation of ancient environments; and the integrated use of fossils and other geological features in solving problems of geologic correlation and age dating. Statistical and qualitative approaches applied to field and laboratory data. 3 hours lecture and one 2-hour lab. Prereq: two 100-level geology courses or consent of instructor.

330 Igneous and Metamorphic Petrology (4) Study of the properties of crystalline rocks, the processes that produce them, and the tectonic environments in which they form. Topics include interpretation of rock textures, phase diagrams, geochemical and isotopic compositions, magma generation and differentiation, effects of temperature, pressure, and fluids on mineral equilibria and kinetics. 3 hours lecture and one 2-hour lab. Prereq: 310.

340 Earth Sedimentary Processes (4) Earth surface processes, including weathering and soil formation, the hydrologic cycle, physical sediment transport, biological and chemical sedimentation, and sediment diagenesis, applied to interpretation of the stratigraphic record. 3 hours lecture and one 2-hour lab. Prereq: two 100-level geology courses and 310, or consent of instructor.

345 Geology of East Tennessee (1) Geology of the Southern Appalachians in Tennessee. 1 hour lecture plus field trips. Prereq: Completion of major core courses or consent of instructor.

370 Earth Structure and Geophysics (4) Stress and strain; mechanics and recognition of geologic structures (faults, joints, folds, foliations, lineations, microstructures); introductory plate tectonics; introductory earthquake and reflection seismology. Laboratory: geologic map interpretation, cross-section construction, fabric diagrams, fault-plane solutions, strain analysis, seismic interpretation. Field work: field observation and measurement, recording data, regional geology. 3 hours lecture and one 2-hour lab. Prereq: Two 100-level geology courses, Mathematics 141-142, and Physics 135, or consent of instructor. Coreq: 310.

380 Planetary Geoscience (4) Geologic, geophysical, and geochemical systems and processes at planetary scales. Topics include accretion, differentiation, outgassing, seismology, magnetism, geochronology, remote sensing, processes modifying surface morphology and materials, geochemical cycles, planetary exploration. 3 hours lecture and one 2-hour lab. Prereq: 330 and 370 or consent of instructor.

381 Minerals and Energy Resources: Geologic Constraints and Environmental Impacts (3) Distribution and estimates of mineral and energy resources. Environmental impact of exploitation and utilization of conventional and alternate resources. Writing-emphasis course.

401 Quantitative Methods in Geology (3) Applications of calculus and differential equations to problems in the earth sciences. Examples of the diffusion equation in hydrogeology; the wave equation in geophysics; mechanical modeling and boundary conditions in structural geology and tectonics. 3 hours lecture. Prereq: Two 100-level geology courses and Mathematics 141, or consent of instructor.


411 Optical Mineralogy (2) Laboratory course on the principles of optical mineralogy. Use of petrographic microscope to identify rock-forming minerals with applications to petrology and environmental mineralogy. Prereq: 310.

412 Elements of X-ray Diffraction (2) Laboratory course on principles and applications of X-ray diffraction. Phase identification, quantitative determination of mineral abundances in mixtures, and crystal structure determination. Prereq: 310.

431 Geological Engineering (3) (See Civil Engineering 431.)

440 Field Geology (5) Summer field course for advanced undergraduate geology majors and first-year graduate students in geology. Taught off-campus and requires the full time of the student. The course provides a synthesis of the major aspects of the geological sciences in a societal context. Field techniques demonstrated and practiced, and applied to the solution of geologic problems. Prereq: Completion of other major core courses (310, 320, 330, 340, 370) and consent of instructor.

450 Process Geomorphology (3) Integrative approach to the development of the surface of the Earth based upon case histories, maps, remote sensing imagery; 2 lecture hours and one 2-hour lab. Prereq: Two 100-level geology courses or consent of instructor. (Same as Geography 450.)

455 Basic Environmental Geology (3) Applications of the geological sciences toward a comprehension of the effects of geological processes on humans and the effects of human activities on the earth's environments. Prereq: One 100-level geology course or consent of instructor.

460 Principles of Geochemistry (4) Applications of chemical principles to geologic systems with emphasis on problem-solving techniques. Topics include phase diagrams, partitioning of trace elements, thermodynamic principles for evaluating stabilities of mineral assemblages, aqueous solutions, and applications of radiogenic and stable isotopes to geologic systems. 3 hours lecture and one 2-hour tutorial. Prereq: Chemistry 120-130, Mathematics 141-142, recommended 330 or consent of instructor.

470 Applied Geophysics (3) Basic principles geophysical exploration, with emphasis on applications to environmental problems. Includes seismic and electromagnetic methods. 3 hours lecture. Prereq: 6 hours of geology courses numbered above 300 and Physics 135-136 or equivalent, or consent of instructor.

475 Physical and Chemical Systems of the Earth (3) Development of the physical earth from the solar nebula to the present. Formation, composition and evolution of the hydrosphere, crust, mantle, and core. Interdependence of earthquakes, volcanism, plate tectonics, geomagnetism, chemical and isotopic processes of the interior, and the earth's temperature. Historical perspective on major controversies of the past, and problems unresolved today. 2 lectures and 1 discussion period. Writing-emphasis course. Prereq: 16 hours geology courses numbered 300 and above.

480 Principles of Economic Geology (4) Ore-forming processes, classification of mineral deposits, survey of different types of mineral deposits with examples, and metallogensis. 3 lecture hours and one 2-hour lab. Prereq: 310, 330 or equivalents. Recommended: 460.

485 Principles of Hydrogeology (3) Physical principles of flow, flow equations, geologic controls, aquifer analysis, water well design/testing, introduction to transport processes. Prereq: one 100-level geology course, Mathematics 141-142, and Physics 135 or 136 or equivalent, or consent of instructor. (Same as Civil Engineering 485.)

486 Hydrogeology Laboratory (1) Application and demonstration of hydrogeological principles in the field and laboratory. Prereq or Coreq: Geology 485, or Environmental Engineering 535, or consent of instructor.

490 Special Problems in Geology (1-3) Directed study or special topics. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

GERMAN (433)

101-102 Elementary German (3,3) Language laboratory required. Must be taken in sequence. Not available to students eligible for German 150.

111 Language Laboratory (0)

112 Language Laboratory (0)

150 Elementary German Transition (3) This course is designed to prepare students for enrollment in German 201. Prereq: Two years of high school German and a placement score below the level required for admittance to German 201. Since 150 is a review of elementary German, students who receive credit in this course may not also receive credit for any other 100-level German course and therefore also forfeit the six hours of elementary language credit awarded through placement examination.
199 German Language and World Business (2) The course will examine the importance of foreign trade at the local, state, and national level. An interdisciplinary team of faculty from the Colleges of Business Administration and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students in the language and world business concentration. See the Director for further information.

201-202 Intermediate German (3,3) Must be taken in sequence. Prereq: 102 or 150 or appropriate placement exam score. (CC)

215 German Special Topics (3) If content varies, may be repeated for credit. Maximum 6 hours.

301-302 Introduction to German Literature (3,3) Prereq: 202 or equivalent. Need not be taken in sequence.

305 Readings in German (3) Topics in both literary and nonliterary fields. Students or student groups are encouraged to suggest topics for future courses. Prereq: 202 or equivalent. May be repeated. Maximum 6 hours.

311-312 Conversation and Composition (3,3) Prereq: 202 or equivalent.

323 German Film (3) A study of the German cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 323.)

331-332 Elements of German for Upper-Division and Graduate Students (3,3) Elements of language, elementary and advanced readings and a final 10,000 word translation project. Open to graduate students preparing for language examination, and upper-division students desiring reading knowledge of the language. Undergraduate credit only. No credit for students who have completed 101-102. 332 may be repeated only once for credit. A, B, C, No Credit grading.

350 German-Jewish Topics in Literature and Culture (3) Selected themes, issues, figures, movements, and problems in the German-Jewish relationship as reflected in literature and culture from the 1750s to the present. Taught in English. Prereq: 201-202 Intermediate German and 331-332 Elements of German for Upper-Division and Graduate Students.

363 Modern German Culture (3) German culture from the mid-nineteenth century to the present: customs, art, music, literature, society, state. Readings in English for non-majors and in German for majors. Major credit, but no foreign language credit. A writing-emphasis course. May be repeated with the approval of the department. Maximum 6 hours. (Same as Judaic Studies 350.)

411-412 Advanced Conversation and Composition (3,3) Prereq: 311-312 or equivalent or consent of department.

415 German Special Topics (3) If content varies, may be repeated. Maximum 6 hours.

416 Metropolis Revisited (3) The 20th Century German or Austrian metropolis in the mirror of history, literature, theory, art, architecture, and music. Taught in English. Prereq: German 101-102 or simultaneous enrollment in that sequence and consent of instructor.

419 German Fairy Tales and Literary Fantasies (3) How and why forms of literary fantasies ranging from apocalyptic dreams to enchanted visions have changed over the centuries. Strong interdisciplinary component, tracing interconnections between philosophy, psychology, religion and literary history, as well as exploring the relationship between literary, musical and artistic representations of specific themes. Prereq: 6 hours of 300-level courses or equivalent, excluding 331-332.

420 Selected Topics in German Literature from 1750 to the Present (3) Prereq: 6 hours of 300-level courses excluding 331-332 and courses in English translation, or equivalent.

425 Introduction to Descriptive Linguistics (3) (See French 425.)

426 Methods of Historical Linguistics (3) Phonetics, distinctive feature analysis, sound change types, nature of sound change, principles of reconstruction and foundational assumptions about language change through time. Non-phonological linguistic change, language families, Proto-Indo-European and other proto-languages. Prereq: 6 hours of upper-division foreign language courses excluding courses in translation or graduate reading courses. (Same as French 426; Linguistics 426; Russian 426; Spanish 426.)

431 Images of Nature and the Body in German Culture (3) Representations of nature from idyllic refuge and object of praise to scientific object and precarious resource. Other themes include sexuality, the body, childhood, and aging. Discussions based on literary and documentary texts and films. Prereq: 6 hours of 300-level courses or equivalent, excluding 331-332.

432 German Creative Thinking: Interdisciplinary Dialogues (3) Interdisciplinary connections between German literature and art, music, philosophy, theatrical praxis, psychology, dance, anthropology, history, and the sciences. Comparative analyses of literary and non-fictional texts, films, and other media. Prereq: 6 hours of 300-level courses or equivalent, excluding 331-332.

433 Nation, Race, and Ethnicity (3) Examination of cultural constructions of nation, race, and ethnicity and how they have challenged each other and developed in German-speaking countries since the eighteenth century. Close study and analysis of fiction, non-fiction, and films that address controversial topics such as assimilation, integration, racial/ethnic identity formation and multiculturalism. Prereq: 6 hours of 300-level courses or equivalent, excluding 331-332.

434 Extraordinary Wo(Men)–Outcasts, Rebels, Martyrs, and Saints (3) Examination of German texts and visual media that have challenged mainstream thinking throughout the centuries. Strong interdisciplinary component, focusing on literary and artistic forms that depict struggles involving religion, politics and gender. Prereq: 6 hours of 300-level courses or equivalent, excluding 331-332.

435 Structure of the German Language (3) Contrastive English-German segmental and suprasegmental phonemes, contrastive English-German linguistic structures, selected topics in advanced German grammar and syntactic analysis. Prereq: 6 hours of upper-division German language courses excluding courses in translation and graduate reading courses. (Same as Linguistics 435.)

436 History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German to New High German. Internal and external linguistic history of German speech. Prereq: 6 hours of upper-division German language courses excluding courses in translation and 331 or 332. (Same as Linguistics 436.)

477-478 German Honors (1,1) Preparation of honors paper portfolio and oral presentation. Prereq: Permission of department.

485 Business German (3) German used in fields of business, government, administration and economics. Prereq: 6 hours of upper-division German excluding courses in translation and 331 or 332.

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For language and world business majors only. Satisfactory/No Credit grading only.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

494 German Community Service Practicum (1) Supervised by the director of the Lower-Division German program, students assist German classes at local schools or they perform supervised service with local institutions that promote awareness of German culture among the general public. Prereq: 18 hours of upper-division German courses and consent of program chair. Maximum 1 hour credit per semester. May be repeated. Maximum 3 hours.

497 Senior Honors (1-6) Admission by consent of department. May be repeated. Maximum 6 hours.

GLOBAL STUDIES (440)

250 Introduction to Global Studies (3) (See Sociology 250.) (CC)

393 Global Justice and Human Rights (3) (See Philosophy 393.)

GREEK

See Classics.

HEALTH (449)

110 Personal Health and Wellness (3) Information and behavior necessary to approach health and wellness scientifically and to develop confidence in judgments affecting personal health and wellness. Students who have received credit for Health 330 may not thereafter receive credit for this course.

200 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female as they relate to health and wellness. Satisfactory/No Credit grading only.
225 Alcohol/Drugs and the College Student (2) Problems related to use and abuse of substances potentially harmful to health and wellness. Covers alcohol, drugs, tobacco and other substances. Satisfactory/No Credit grading only.

230 Cardiopulmonary Resuscitation (2) Theory and skills to implement basic cardiac life support following cardiac arrest due to such conditions as heart attack, drowning, electrocution, suffocation, drug intoxication, and vehicular and other accidents. Educational and preventive aspects of controlling cardiovascular disease. Leads to basic life support certification.

300 Health Education, Promotion, and Behavior (3) Health education goals, roles, target populations in school, community and health care settings; health careers and opportunities; health behavior and intervention techniques; health appraisal techniques; health promotion strategies.

305 Health of Adolescents (3) Profile of health needs, interests, and behaviors of adolescents and attention to the roles and functions of practitioners relating to youth and youth culture.

306 Health Instruction in Elementary Grades (3) School health program for the child in elementary grades. Students become familiar with organizing and presenting health content, health materials, health curricula, community resources, and communicating healthful lifestyle.

310 Advanced First Aid and Emergency Care (3) Theory and practice of first aid and emergency care. Provides essential information for developing functional first aid capabilities of lay persons. Course leads to Advanced First Aid and Emergency Care certification. Applicant must be at least 18 years old for certification.

330 Wellness For Health Professions (3) Emphasis on the personal responsibility for one’s health. Includes topics related to the healthy lifestyle, and provides specific guidelines of how to change inappropriate behaviors. Students who have received credit for 330 may not thereafter receive credit for Health 110.

375 Health Communications (3) Communication strategies for health educators in various settings. Emphasis on interpersonal relationships, public relations, leadership, small group processes, health teams, and effective use of media. Prereq: 300, Public Health 300.

400 Consumer Health (3) Major consumer health care providers and health care services; selecting, purchasing, evaluating and financing medical and health care services/products. (Same as Public Health 400.)

405 Alcoholism and Alcohol Education (3) Factors which make alcoholism a serious health and safety problem. Various types of instructional/educational and intervention programs.

406 Death, Dying, and Bereavement (3) Aspects of dying, death and handling the trauma of loss. Medical, financial, physical, legal and social implications of death.

420 Sex Education as it Relates to Human Sexuality (3) Science of human sexuality. Emphasis on the trends, issues, content of sex education.

425 Women’s Health (3) Factors influencing women’s health and women as consumers in nation’s health service delivery systems. Study of health problems/concerns of women and techniques for prevention, maintenance and/or correction. (Same as Women’s Studies 425.)

426 Health Education Program Planning (3) Principles of curriculum development, administration, implementation, methodology, and evaluation. Prereq: 300, 375.

430 Suicide and Crisis Intervention (3) Factors which make suicide a serious health problem. Assessment, intervention, and prevention techniques.

435 Substance Use and Abuse (3) Drug and alcohol abuse problems and suspicious causes; pharmacology of drugs and effects on society; strategies for intervention and education.

465 Aging and Health (3) Aging process in a health perspective as it relates to health promotion and wellness of the aged.

470 Special Topics (1-3) For advanced students, teachers, school administrators, nurses and other paramedical personnel. Lectures, demonstrations, films, field trips, and supervised research in special health/wellness or health promotion issues. May be repeated. Maximum 12 hours.

475 Directed Independent Studies (1-3) Individual identification and study of a health/wellness or health promotion problem/issue. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

483 Field Practice (12) Off-campus health internship or field practice in an educational or other agency with qualified professional. Prereq: Progression and approval for internship. Usually taken in final semester. Satisfactory/No Credit grading only.

HEBREW (458)

141-142 Elementary Modern Hebrew I, II (4,4) (See Asian Studies 141-142.)

241-242 Intermediate Modern Hebrew I, II (4,4) (See Asian Studies 241-242.) (CC)

HIGHER EDUCATION ADMINISTRATION (461)

200 Student Leadership Development (3) Designed to enhance the knowledge and skill of emerging student leaders and includes theoretical and experiential content related to leadership role, skill, and effectiveness. Satisfactory/No Credit grading only.

455 Seminar in Student Leadership (1) Topics to be assigned. Designed to develop knowledge and skills in leadership roles for resident assistants, student government leaders, student activities, and other student organizations. May be repeated. Maximum 3 hours.

HISTORY (462)

221-222 History of the United States (3,3) 221—Settlement to 1877. 222—1877 to present. Writing-emphasis course.

227-228 Honors: History of the United States (3,3) Consent of department required. Students will attend the appropriate 221-222 lectures and the designated honors discussion section.

241-242 Development of Western Civilization (3,3) Historical survey of the civilization of the western world. 241—Ancient world to 1715. 242—1715 to present. Writing-emphasis course. (CC)

247-248 Honors: Development of Western Civilization (3,3) Consent of department required. Students will attend the appropriate 241-242 lectures and the designated honors discussion section. Writing-emphasis course. (CC)

255-256 Introduction to Latin American Studies (3,3) Societies of Latin America with special emphasis on dominant culture patterns, social changes, and impact of nationalism. 255—Pre-Colonial and Colonial periods through independence era. 256—Latter 19th century and the modern period. Writing-emphasis course. (Same as Latin American Studies 251-252.) (CC)

261-262 A History of World Civilization (3,3) Historical survey of world civilization. 261—Origins to 1500. 262-1500 to present. Writing-emphasis course. (CC)

303 History of the Roman Republic (3) Roman history, 5th-century BC-27 BC; origins of Rome, development of the Republican constitution, growth of Roman imperialism, Romans and Greeks, collapse of the Republic, rise of Octavian. Writing-emphasis course. (Same as Classics 303.)

304 History of the Roman Empire (3) Roman history, 27 BC-AD 211; age of Augustus, expansion of Roman citizenship; Flavian and Antonine dynasties; barbarians and Romans; the Second Sophistic; the Severans. Writing-emphasis course. (Same as Classics 304.)

305 History of the Late Roman Empire (3) AD 197-491. The Severan empire and the third-century crisis; Diocletian and Constantine; the Christian empire; rise of bureaucratic government; the development of barbarian kingdoms; the fall of the western empire; from Roman to Byzantine in the east. Writing-emphasis course. (Same as Classics 305.)

307 Honors: Introduction/Historical Problems (3) Historical analysis, philosophy of history, principles and techniques of research emphasizing the roles of climates of opinion and frames of reference and the problems of evidence, interpretation and objectivity. Required of students working for honors in history. Prereq: Consent of the department.

310 The Ancient World: Greece (3) (Same as Classics 310.)

312-313 Medieval History (3,3) 312—Early Middle Ages: 300-1100. Formation of medieval society and institutions. 313— Later Middle Ages 1100-1400. Height of medieval civilization, and its waning in the fourteenth century. (Same as Medieval Studies 312-313.)

314 Renaissance Europe (3) The period traditionally seen as a transition from the Middle Ages to the modern world. Intereplay of cultural, social, economic, and political developments, with an emphasis upon historical interpretation.

315 Reformation Europe, 1500-1650 (3) The period during which Europe witnessed religious disunity, economic dislocation and insecurity, political centralization, intellectual skepticism, the origins of modern science, war and the witch craze. (Same as Religious Studies 315.)
316 Early Modern Europe, 1650-1800 (3) Dynamic conflict of a search for order in an age of revolutions, seen in the continued push for political centralization, the impact of the scientific revolution, the intellectual flowering known as the Enlightenment, and the English and French revolutions.

319 Modern Europe, 1750-1914 (3) Political, industrial and intellectual revolutions against traditions. Topics such as the modern population explosion, urbanization, the political emergence of the middle class and the masses, nationalism, imperialism, rationalism and Romanticism in social thought and politics. Writing-emphasis course.

320 Contemporary Europe, 1900-Present (3) The transformation from industrial to post-industrial society and the transformation of the European nation-state. Topics such as war and depression and the consequent political and social instability; totalitarian control; decolonization; the impact of French, Einstein and Existentialism; welfare states, and the problems of European unification. Writing-emphasis course.


322 Christian Thought in Late Antiquity (3) (See Religious Studies 322.)

323 Deviance and Persecution in the Christian West, 1100-1700 (3) Emergence and shifts in movements of dissent; popular perceptions and ecclesiastical and civil policies and institutions designed to uncover and combat heretics, homosexuals, Jews, and witches. Writing-emphasis course.

330-331 History of England (3,3) 330—To 1688. 331—1689 to the present. Medieval state, church, and society; origins of Anglo-American law, the monarchy and parliamentary government, the Reformation, 17th-century revolutions, commercial, agricultural and industrial revolutions; class conflict, empire, the welfare state, world wars, economic crisis.

333-335 History of Germany (3,3) 334-Germany I: To 1815. The First Reich’s fortune and failure. The development of the German lands, from the medieval empire to its disintegration, through dynastic and religious realignments, to the Austrian-Prussian dualism in the time of Frederick the Great and Maria Theresa, culminating with the end of the older order in the Age of Napoleon. 335-Germany II. Since 1800. The quest for nationhood. The evolution of modern Germany through revolution, industrialization and wars, from Bismarck’s Confederation, to Bismarck’s Second Reich, to the Weimar republic to Hitler’s Third Reich, to Adenauer’s Federal Republic and the present nation.

339 Modern Ireland, 1760-Present (3) Ireland’s social, political, economic, and cultural history. Themes include Ireland’s status as England’s first colony from the Norman period to Cromwell and beyond, peasant revolt, Catholic-Protestant antagonism, nationalist revolutionary movements, the famine, home rule, partition, and independence in the 20th-century, with continuing sectarian tensions.

340-341 History of Russia (3,3) 340—To the middle of the 19th-century. 341—From the middle of the 19th century.

342 History of Nazi Germany (3) The coming to power of the Nazi party in Germany, origins of ideology, rise and fall of the Third Reich. Topics include foreign policy, social policy, War World II, Hitler’s brutal rule and racial programs, culminating in mass murder and genocide against the Jews of Europe. Writing-emphasis course.

350 Colonial America to 1763 (3) Social and cultural developments in the American colonies from the point of contact between Europeans and native peoples through the mid-18th-century. Writing-emphasis course.

351 The American Revolution, 1763-1789 (3) The growing estrangement of the American colonies from the British Empire, the War for Independence, and the creation of a new American republic. Writing-emphasis course.

352 The United States During the Jacksonian Era, 1815-1860 (3) An examination of the major economic and political developments in antebellum America within the framework of the struggle between nationalism and sectionalism.

353 The Civil War and Reconstruction Eras, 1860-1877 (3) An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction eras.

354 United States, 1877-1933 (3) America’s political, economic, and social development from the Gilded Age through the Great Depression.

355 United States, 1933 to the Present (3) American experience from Roosevelt’s New Deal through World War II and the Cold War to present. Emphasizes domestic history but includes military and foreign policy.

356 The 1960s in America (3) The politics, social movements, and cultural rebellions of the 1960s. Topics include race riots, antiwar protests, new art forms, Great Society legislation, the rise of neoconservatism, empowerment movements by people of color, Cold War brinkmanship in Cuba, and the escalation of ground and air wars in Vietnam. Writing-emphasis course. (Same as American Studies 356.)

360-361 History of Latin America (3,3) 360-Colonialism and Independence, 1500-1825. 361-National Development, 1825 to present. Writing-emphasis course. (Same as Latin American Studies 360-361.)

366 History and Archaeology of Mesopotamia (3) Mesopotamia (Assyria and Babylonia) from the fifth millennium to the Iron Age. Specific topics will include the development of village and state-level societies, and the emergence of social and political institutions, literacy, imperialism, and interregional interaction. Writing-emphasis course.

369-370 History of the Middle East (3,3) 369—Rise and spread of Islamic civilization to the 16th-century. 370—The Middle East from the 16th-century to the present. Impact of the West and background of current problems in the area. Writing-emphasis course. (Same as Judaic Studies 369-370.)


373 Historical Issues (3) Variable content. Broad thematic issues in historical perspective. Lecture-discussion. Especially suitable for non-majors; also open to majors. May be repeated. Maximum 9 hours.

374 A History of Imperialism since 1850 (3) Relationships between the West and Africa, Asia, and Latin America since 1870 across a broad spectrum of critical issues. Includes economic interdependence and underdevelopment, ideologies in conflict with non-Western world views, and the search for individual identity in circumstances of cultural disruption. Writing-emphasis course.

375 Revolutions in Historical Perspective (3) Comparative history of major revolutions which transformed political, social, and economic structures and values, such as those in France, Russia, China, Mexico, and Iran. Contrasts and common patterns in their causes, phases and outcomes. Relations between leaders and masses. Major theories of revolution. Writing-emphasis course.

381 History of South Africa (3) South African history from the pre-colonial period through the apartheid and post-apartheid eras. Topics include African state formation and resistance to European colonization, the impact of industrialization, the evolution of modern resistance movements, and the first democratic elections in 1994. Writing-emphasis course. (Same as African and African-American Studies 381.)

383 History of Jewish Civilization I (3) Biblical-Talmudic Periods (1200 BCE-600 CE). Origins of the Israelites, development of independent Israelite and Jewish states in the ancient Near East, rise of Jewish Diaspora communities, cultural convergences with Hellenism and early Christianity, and the development of Rabbinic Judaism. Writing-emphasis course. (Same as Judaic Studies 383.)

384 History of Jewish Civilization II (3) Medieval - Present. The resiliency of Jewish civilization in the face of external pressures; of Sephardic and Ashkenazi Jewry in medieval Europe; North Africa and the Middle East; Jewish mysticism; Judaism’s encounter with modernity: Hasidism, the Haskala; the Reform movement and Zionism; the Holocaust; the Foundation of the State of Israel; and assimilation and the future of Judaism. Writing-emphasis course. (Same as Judaic Studies 384.)

385 Studies in World History (3) Variable content. Selected topics in world history involving analysis of two or more world cultures. May be repeated. Maximum 9 hours.

389-390 History of China (3,3) 389—China to 1600. Surveys the history of Chinese society from the Neolithic Revolution to 1600: governmental structure, social organization, economic and technological developments, religious practices, artistic, intellectual and literary traditions, and cross-cultural exchanges. 390—China since 1600. Highlights China’s transformation from a dynastic system to a modern nation state and examines the forces, internal and external, driving China toward a major revolution in the 20th century. Writing-emphasis course.

391 Chinese Intellectual History (3) Surveys the history of intellectual traditions in China through the present. Examines the formation and transformation of cultural values, the social and political roles of intellectuals, and interactions between elite and popular cultural patterns. Writing-emphasis course.
392 History of Japan (3) Japanese history from mythological origins to the postwar age, with emphasis on politics and society. Topics include the influence of disease on society, Japanese feudalism, popular culture in the 1700s, the Meiji restoration, and Japanese militarism. Students who have received credit for 365 may not receive credit for 392. Writing-emphasis course.

395 The Crusades and Medieval Christian-Muslim Relations (3) The major Christian crusades in the Middle East and Spain, 1050 to 1500; their political and military history; and the larger context of the medieval religious, cultural, intellectual, and diplomatic confrontation between Christians and Muslims. Writing-emphasis course. (Same as Judaic Studies 395.)

407 Honors: Senior Paper (3) Bibliographic search, research and conceptual clarification for the senior paper. Required of students working for honors in history. (Same as Judaic Studies 395.)

408 Honors: Senior Paper (3) Organization and writing of the senior honors thesis. Required of students working for honors in history. Grade of A or B required for honors credit.

421 Comparative Studies in African and African-American Societies (3) (See African and African-American Studies 421.)

429 Medieval Intellectual History (3) The evolution of thought in Europe from late antiquity to the advent of Humanism, especially connections between major thinkers and their social, economic, and political contexts. Writing-emphasis course.

430-431 European Intellectual and Cultural History (3,3) 430—Renaissance to Revolution, 1300-1789. 431—Romanticism to Relativism, 1750-Present. 432 Women in European History (3) Comparative analysis of the roles of women in Medieval, Renaissance and Victorian Europe. Relationship between family structure, sexual attitudes and the economic and political roles of women with an emphasis on autobiographical writings by women. Writing-emphasis course. (Same as Women's Studies 432.)

439 Southeastern Indian History (3) Southeastern Indian history from the protohistoric period to the present. Interaction of Euroamerican, African-American, and Native-American peoples; warfare, slavery, resettlement and other policies from the American Revolution to twentieth-century problems such as tribal sovereignty and dependency. Writing-emphasis course.

441 The American West (3) From 1803 to present, with emphasis on diverse ethnic cultures, colonial status, extractive industries, aridity, and the ongoing debate over the preservation of natural resources on federal lands. Writing-emphasis course.

442 Indian-White Relations in United States History (3) Dilemma of two cultures existing side by side; background and formulation of official Indian policy; undermining of policy by frontier circumstances; Indian wars and campaigns; present-day relationship. Writing-emphasis course.

443-444 History of the South (3,3) 443—Old South from colonial period through the Civil War. 444—New South from Reconstruction through the Second Reconstruction.

445 The African-American Experience from the Colonial Period to the Civil War (3) Africans in American society from the colonial period to the Civil War. Impact of the African slave trade on the cultural, economic, and social development of the colonies; slave culture, adaptation, and resistance; freed black people; and the formation of an African-American identity. Writing-emphasis course. (Same as African and African-American Studies 445.)

446 The African-American Experience from the Civil War to the Present (3) Topics in 19th and 20th century African-American history. Writing-emphasis course. (Same as African and African-American Studies 446.)

449 History of Tennessee (3) Tennessee's history from the 18th century to the present. (Same as Urban Studies 449.)

450 History of United States Foreign Relations to World War II (3) Examines the ideology and practice of U.S. international relations from independence to entry into the Second World War. (Same as Urban Studies 449.)

451 United States Military History, 1754 to the Present (3) The nation's broad strategic aims and means used to attain them, shifting strategy, tactics and weaponry involved in wars, and relationship between American society and its armed forces. Writing-emphasis course. (Same as Military Science and Leadership 430.)

452 The American Experience in World War II (3) Diplomacy and warfare in Europe and Asia and the impact of the war on American society. 453 Women in American History (3) Approaches of 432 applied to American society. Writing-emphasis course. (Same as Women's Studies 453.)

454 Cities and Urbanization in American History (3) Origins, growth, and influence of American cities in development of the nation, from colonial era to present. Writing-emphasis course. (Same as Urban Studies 454.)

459 Jefferson's America, 1789-1815 (3) Nation-building in the United States from the Constitution to the War of 1812. Economic modernization, the new national government, the first political party system, foreign relations, the changing status of women, the growth of cities, and changing ideas about deference, class, and community. Writing-emphasis course.

460 History of Brazil (3) History of Latin America’s largest nation. History of boom and bust economic cycles, slavery and the abolition of slavery, populism, military rule, and democratization. Writing-emphasis course. (Same as Latin American Studies 460.)

461 Cuban Revolution in Historical Perspective (3) Cuban history with major emphasis on Cuban Revolution and Cuban-U.S. relations. Writing-emphasis course. (Same as Latin American Studies 461.)

462 History of Mexico (3) Pre-Columbian, colonial, national, and modern Mexican history, emphasizing the twenty-first century’s first true social revolution, the Mexican Revolution, and contemporary social and economic problems. Writing-emphasis course. (Same as Latin American Studies 462.)

463 Modern Latin American History in Film (3) Major events and trends in Latin America since 1945 as represented in fictive films made by Latin Americans. Topics include economic development, the Cuban Revolution, and Authoritarianism. Writing-emphasis course. (Same as Latin American Studies 463.)

470 Studies in British History (3) Variable content. Selected themes and issues in British history. May be repeated. Maximum 9 hours.

471 Studies in Western European History (3) Variable content. Particular aspects of Western European history such as witchcraft, revolutions, and nationalism. May be repeated. Maximum 9 hours.

472 Studies in Central European History (3) Variable content. May be repeated. Maximum 9 hours.

473 Studies in Eastern European History (3) Variable content. Selected aspects of Eastern European history, especially on Russian and Polish history. May be repeated. Maximum 9 hours.

474 Studies in Medieval and Early Modern European History (3) Variable content. Particular aspects of medieval and early modern Europe. May be repeated. Maximum 9 hours.

475 Studies in Latin American History (3) Variable content. Significant issues in Latin American history. May be repeated. Maximum 9 hours. Writing-emphasis course. (Same as Latin American Studies 475.)

476 Studies in Asian History (3) Variable content. Particular aspects of Middle Eastern and East Asian history such as modernization in the Middle East, revolution in China, Japanese Feudalism, and others. May be repeated. Maximum 9 hours.

479 Studies in United States History (3) Variable content. Particular aspects of United States history. May be repeated. Maximum 9 hours.

480 Studies in African History (3) Variable content. Different areas of the continent and diverse aspects of the African experience such as African resistance movements, African political parties, the relationship of social and economic development under colonialism to social and economic conditions in modern African nations, and Apartheid and resistance in South Africa. May be repeated. Maximum 9 hours.

481 Studies in History (3) Variable content. Subject matter not covered in other courses. May be repeated. Maximum 9 hours.

482 Colloquium in History (3) Historical theme or problem; emphasis on questions and skills, with special reference to historical writing, including critical analysis of both primary and secondary sources. Recommended for seniors. Writing-emphasis course.

483 History of United States Foreign Relations Since World War II (3) Examines the ideology and practice of U.S. international relations since World War II.

484 Studies in Jewish History (3) Variable content. Significant topics in the study of Jewish civilization and culture, including the development of the synagogue, Judaism and ethnicity, and the history of Jerusalem. Writing-emphasis course. May be repeated. Maximum 9 hours. (Same as Judaic Studies 484.)
485 Studies in Cross Cultural History (3) Variable content. Comparative analysis of specific historical issues or specific facets of the relationships between two or more cultures. May be repeated. Maximum 9 hours.

486 Studies in the Ancient Near East (3) Variable content. History and archaeology of Egypt, Anatolia (Turkey), Cyprus, and Persia (Iran), the rise of social complexity, and social boundaries in antiquity. Writing-emphasis course. May be repeated. Maximum 9 hours.

489 Oral Histories of War and Peace (3) Oral history methodologies and interviews with veterans and others who have shaped modern American military history. Special focus on World War II, the Korean War. History 451, U.S. Military History, recommended but not required.

490 Internship in the Center for the Study of War and Society (3) A structured field work experience in public history at a research center documenting modern U.S. military history, including special projects such as grant writing, interviewing, and archival processing. Writing-emphasis course. Consent of the Director of the Center for the Study of War and Society. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

HOTEL, RESTAURANT, AND TOURISM (514)

101 Food Quality Principles (3) Scientific principles involved with selection, preparation, evaluation and safety of quality food. 2 hours and 1 lab.

102 Microcomputer Applications (3) (See Retail and Consumer Sciences 102.)

119 Introduction to the Service Industry (3) Organization and basic operating systems for the career paths available in the hospitality, retail and recreation and tourism industries. Managerial competencies necessary for success in these fields. (Same as Retail and Consumer Sciences 119.)

210 Foodservice Operations Management (3) Principles of menu development, equipment selection, layout, purchasing, production, and service of food in volume.

211 Hotel Operations (3) Operational theory of lodging and an exploration of the lodging industry in terms of nature of work, organizational structure of lodging segments, the meaning of guest services, differentiation of brands, current industry issues, and evaluation of the market place.

224 Tourism Management (3) Examination of the various components of the tourism industry, motivators to travel, and the various market segments. Includes the analyses of the economic, social, cultural, and environmental impacts to tourism. Prereq: 119 or consent of instructor.

311 Developing a Diverse Service Workforce (3) Personnel management procedures and polices to develop a diverse service workforce. Topics include leading organizational change; labor cost; employee review process retention issues. Prereq: 210 or 211. (Same as Retail and Consumer Sciences 311.)

326 Food and Lodging Cost Control (1-3) Budget, cost analysis, computer, financial statement use in decision making in lodging and foodservice systems. Prereq: 210, Mathematics 119/123, and Accounting 201, or consent of instructor.

341 Food Safety and Sanitation for the Food Service Industry; Hazard Analysis Critical Control Point (HACCP) (1) Students will be eligible to become ServSafe certified. Prereq/Coreq: 210.

360 Issues and Trends in Consumer Service (3) (See Retail and Consumer Sciences 360.)

390 Professional Development (3) Development of skills important to career success; focus on business communications, time and stress management, motivational and negotiating skills. Prereq: English 101-102. Prereq/Coreq: 311, 326, or Retail and Consumer Sciences 310 and progression into the program. (Same as Retail and Consumer Sciences 390.) (WC)

410 Strategic Planning for the Hospitality Industry (3) Hospitality Management from a strategic planning perspective; development and implementation of restaurant strategy from financial, operational, and customer orientation. Prereq: 390.

420 Professional Experience in Service Management Hospitality (6) Supervised educational experiences in selected hospitality operations. Prereq: Progression into the program and 390. Satisfactory/No Credit grading only.

423 Marketing for Hospitality and Tourism (3) Marketing principles and practices specifically applied to the hospitality and tourism industry. Includes the analyses of various hospitality and tourism marketing strategies and the implications of those strategies. Develops the use of marketing tools as an integral part of the hospitality and tourism operation. Prereq: 210, 211, 224; Marketing 300; or consent of instructor.

425 Legal Issues in Service Management (3) Legal rights and responsibilities of service industry managers, their staff and clientele. Prereq: 390, progression into the program or consent of instructor.

435 Conventions and Meetings: Pursuit and Attainment (3) Discussion of types of conventions/meetings, roles of meeting planners, identifying decision makers, site selection, negotiating, budgeting, marketing and gaining commitment from group. Prereq: 210, 211, 390 or consent of instructor.

440 Special Topics: Hotel, Restaurant, and Tourism (1-3) Developments, issues and problems in hotel and restaurant, and tourism. Topics variable. May be repeated. Maximum 6 hours.

445 Advanced Food Production and Service Management (3) Application of management concepts in menu design, personnel, cost control and production and service of food. 2 hours and lab. Prereq: 390 or consent of instructor.

450 Advanced Lodging Management (3) This course is designed to allow students to interpret operational problems currently occurring in the hotel industry in a case study, interactive environment. The student will analyze management opportunities and threats within a hotel and determine reasonable alternatives. Prereq: 211, 390, Marketing 300.


494 Directed Study: Hotel, Restaurant, and Tourism (1-3) Individual student: faculty experience. Prereq: Junior and senior standing, consent of the instructor. Satisfactory/No Credit grading only.

HUMAN ECOSYSTEM (520)

310 Design in Everyday Life (3) Aesthetic environment. Planning and organizing interior spaces to meet personal and family needs. Relationship of materials and furnishings to architectural space.

HUMAN RESOURCE DEVELOPMENT (529)

340 Training Systems: Strategies and Techniques (3) Fundamental knowledge, strategies and techniques of training systems required of students planning careers in HRD. During design and development, students develop skills in sequencing instruction, developing effective instructional strategies and techniques that produce the desired learning outcomes, multimedia presentations, and assessment and evaluation tools required to test desired outcomes for the learner, the trainer, and the program. Prereq: Business Administration 331 or 341.


452 Technology in Learning Environments (3) Addresses the use of diverse technology for creating and facilitating instruction and learning. Technology use is explored in terms of stimulating, channeling, and sustaining learning. Prereq: 340. Coreq: 440.

455 Program Evaluation (3) Provides instruction and practices in learner and program evaluation that occurs in occupational and educational settings. Conducting learner and program evaluation becomes one of the most critical competencies for trainers and educators in organizations today. By completing this course, the students will understand the concepts of performance assessment, different approaches of program evaluation, procedures and techniques of program evaluation, and the four-level evaluation model widely used for program evaluation in industries. The students will also possess competencies to conduct program evaluation. Prereq: 440.
479 Internship and Career Development (3) Provides an opportunity to integrate and apply the knowledge and skill-based competencies obtained in the classroom. Experience through the internship assists the student in making a career decision. The internship is the capstone course bridging the gap between the classroom and the corporate world. Prereq: 452.

485 Special Topics in Human Resource Development (1-3) Topics to be assigned. May be repeated.

493 Independent Study (3) Topic arranged by student in collaboration with a supervising faculty member. Prereq: Junior or senior standing. May be repeated. Maximum 6 hours.

HUMAN SERVICES (532)

440 Human Service Field Work (6) Practical field experiences within an approved and supervised human service setting. Explores day to day activities within a human services organization. Develops specific helping skills; involvement in roles and function of human services profession; provides direct service in a supportive learning setting. Prereq: Progression to the major, 380, 400, 420. For majors only. Satisfactory/No Credit grading only.

441 Human Services Field Work II (6) Practical field experience within an approved and supervised human service setting in a different venue than previous 440 field placement. Explores day-to-day activities within a human service lecture. 2 Develops specific helping skills; involvement in roles and functions of human service profession; provides direct services in a supportive learning setting. For majors only. Prereq: 420, 440. Satisfactory/No Credit grading only.

450 Special Topics in Human Services (3) Issues, methods, values, and trends with implications for helping practitioners, such as art therapy, legal and ethical issues, and self-awareness education. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

INDUSTRIAL ENGINEERING (556)

202 Work Methods and Measurement (3) Productivity and work design. Techniques of work methods design including flow, activity, and worker machine charts as well as work methods improvement techniques and procedures. Human work design criteria for the improvement of work methods. Stopwatch time studies, predetermined time systems, and work sampling are used to establish, document, and maintain time standards, standard data, and allowances. Learning curves and wage payment systems. 2 hours lecture, 2 hours lab. Prereq: Completion of required freshman engineering curriculum. Coreq: Statistics 251.

250 Sophomore Seminar (1) Exposure to the engineering design process through an apprenticeship with senior design teams in Industrial Engineering 422. Apprentees will maintain a journal describing their activities in observing and assisting the senior design teams. Principles of professional oral communications. Topics and activities may include group problem solving, case studies, and formal presentations on the engineering design process employed by the senior design engineers with which they assisted. Grading will be based on journal submissions, contributions to the design team, and the quality of the presentations. 2-hour lab. Prereq: Engineering Fundamentals 152 and sophomore standing in industrial engineering, or consent of instructor. Satisfactory/No Credit grading only.

300 Engineering Data Analysis and Process Improvement (3) Engineering statistical methods as applied to modern engineering and business environments, process improvement, inferences about process output and behavior, and measurement systems. An introduction to the use of designed experiments to improve process. Lab component emphasizes the use of teams to provide hands-on experiences, enhance learning, and develop skills in group dynamics. 2 hours lecture and 1 lab. Prereq: Statistics 251 or Mechanical Engineering 345 or consent of instructor.

301 Operations Research in Industrial Engineering I (3) Integrated system modeling concepts; linear mathematical programming models including the original simplex procedure, transportation and assignment problems, revised simplex procedure, dual simplex procedure, parametric linear programming (sensitivity analysis), and integer linear programming. Prereq: Mathematics 200.

304 Introduction to Human Factors Engineering (3) Human capabilities and limitations affecting work, work place, and work environment design. Emphasis on human factors methodology, human input requirements, human outputs, the design of human-machine interfaces, the analysis of stress on performance, environmental factors such as noise, lighting, and atmospheric conditions. Focus on designing the task to fit the person. Prereq: Junior standing, consent of instructor.

306 Simulation (3) Simulation of complex production processes using current simulation software. Introduction to modeling concepts, flowcharting, random number generation, design of experiments, simulation logic, and computer animation. Utilization of statistical tools to analyze inputs and outputs to simulation models. Lab component provides hands-on experiences in developing simulation models for relevant industrial engineering case studies, 2 hours lecture and 1 lab. Prereq: 202, 310.

310 Operation Research in Industrial Engineering II (3) Network models including PERT-CPM, introduction to nonlinear programming, dynamic programming, stochastic processes, and queuing theory. Basic decision analysis techniques and their applications in engineering practice. Prereq: 300, Mathematics 241.


350 Junior Seminar (1) The role of the industrial engineer in the fields of specialization; necessary training for each specialization, and projected career opportunities. Principles of written communications in science and engineering. Topics and activities include case studies, literature searches, and preparation of written engineering reports including abstracts, executive summaries, and recommendations. 2-hour lab. Prereq: Junior standing in industrial engineering or consent of instructor. Satisfactory/No Credit grading only. (WC)


404 Industrial Engineering Applications (1) To enhance and integrate the industrial engineering educational experience in preparing senior industrial engineering students for their transition to professional practice. Prereq: To be taken in student’s semester of graduation. Satisfactory/No Credit grading only.


421 Information Systems Analysis and Design (3) Systems engineering approach to analysis and design of systems of information. Topics include: systems development life cycle, system analysis methodologies, data analysis techniques, system design, joint application design, and rapid application design. Lab introduces analysis and design software tools. Prereq: Senior standing or consent of instructor.

422 Senior Problems Analysis (3) Current real-world problems will be drawn from local production and service organizations and presented by personnel from these organizations. Senior industrial engineering student teams will solve these real-world problems under the guidance of their instructor using industrial engineering methodology. These problems emphasize problem definitions, analysis, and presentation with considerations for engineering standards and realistic economic, environmental, ethical, safety, social, political, and other pertinent constraints. Prereq: To be taken in student’s semester of graduation.

427 Introduction to Lean Systems (3) Introduces a framework to implement improvements within an enterprise. This framework will focus on designing both the physical system and the associated information system. The students will be introduced to the basic concepts of facilities design based upon process design and requirements. The design of the physical and information systems will be based on integrating the concepts, terminology, and tools of lean enterprise and Six Sigma. Activities will include case studies, industry based projects, and the preparation of written engineering reports. Prereq: Senior standing in major or consent of instructor. Coreq: 306, 402.

440 Process Improvement through Planned Experimentation (3) Review of fundamentals of continuous improvement, advanced statistical process control techniques, and strategies for short production runs. Use of experimental design techniques to improve processes, including single and multiple-factor designs, blocking and confounding, and fractional designs. Full factorial designs are compared to fractional designs to balance experimental efficiency with loss of information. Lab component utilizes statistical and simulation software to provide hands-on experience. 2 hours lecture, 1 lab. Prereq: 300.

450 Senior Seminar (1) Selected topics of interest to industrial engineers, including ethics, life-long learning, contemporary issues in engineering. Formal oral presentations and the preparation of articles by the students on the selected topics. 2-hour lab. Prereq: Senior standing in industrial engineering or consent of instructor. Satisfactory/No Credit grading only.

454 Visual Basic Applications in Engineering (3) Fundamentals of designing, implementing, and distributing certain Visual Basic applications. Transform problems into programming paradigms, and encode solutions using the Microsoft Visual Basic 6 rapid application development tool. Develop an understanding of the Visual Basic event-driven programming concepts, terminology, and available tools. Demonstrations and class discussion will supplement the provided class notes. Practical problems and projects will be assigned. Prereq: 421 or consent of instructor.

455 Human-Computer Interaction (3) Introduction to the analysis, design, production, and implementation of systems requiring interaction between humans and computers (HCI). Includes human sensory systems, human memory capacity, computer hardware/software requirements, input/output device design, and error message handling. Prereq: Junior standing in major and computer programming skills; or consent of instructor.

483 Introduction to Reliability Engineering (3) (See Nuclear Engineering 483.)

484 Introduction to Maintenance Engineering (3) (See Nuclear Engineering 484.)

494-495 Special Topics in Industrial Engineering (1-3,1-3) Recent developments in industrial engineering including new areas of application, new research techniques and new methodologies. Prereq: Senior standing, consent of instructor. May be repeated once.

INFORMATION MANAGEMENT (558)


342 Introduction to Database Systems (3) Fundamentals of database technology, database design, database use, database system controls, and database implementation. Focus is on developing the technical and business skills necessary to successfully gather information and improve business processes in technology-driven environments. Students work hands-on with modern database management systems. Prereq: 341.

442 e-Enterprise (3) Introduction to Internet enabled business processes that connect buyers, suppliers, and trading partners in dynamic, real-time information sharing partnerships. The course discusses and illustrates how the complete value chain, from procurement of raw materials on the supply side to consumer retailing and customer management on the demand side, is integrated and made potentially more efficient. Prereq: 341.

443 Business Applications and Tools (3) Advanced tools associated with spreadsheets and databases, including the creation of objects, macros (using Visual Basic algorithms), pivot tables, and array formulas for use in the design and development of object-oriented applications. This course is required for the IM collateral concentration. Prereq: 341.

INFORMATION SCIENCES (560)

102 Technologies for Information Retrieval (3) Principles, selection, and use of computer-based information management applications; software identification and task appropriate uses; telecommunications, utilities, and memory management systems, multiple operating systems and technology for national network connections; information services via computers.

310 Information Seeking: Resources and Strategies (3) Information as critical resource for research and decision making; emphasis on planning, executing, and evaluating information searches. Focus on topic of student's major.

330 Books and Related Materials for Children (3) Materials for children in leisure time or classroom activities; criteria for selecting books, magazines, recordings, films and related materials; storytelling and other devices for encouraging reading.

350 Information Consumer (3) Information in society, information economy, knowledge/learning society; publishing and information providers: hosts, bulletin boards, nets; information overload/affluence, science fraud, gatekeeping concepts; updating systems, environmental scanning; information consumption techniques.

450 Writing About Science and Medicine (3) (See Journalism and Electronic Media 450.) (WC)

INSTRUCTIONAL TECHNOLOGY (569)

486 Introduction to Instructional Computing (3) Classroom uses of computers, applications for teachers, overview of computer operation and software for teachers of all grades. Prereq: Admission to Teacher Education.

INSTRUCTIONAL TECHNOLOGY AND EDUCATIONAL STUDIES (570)

495 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

INTERDISCIPLINARY PROGRAMS (581)

100 Selected Topics (1-3) May be repeated. Maximum 6 hours.

400 Selected Interdisciplinary Topics (1-12) Acceptable for major or minor credit in any interdisciplinary program with the consent of the director of Interdisciplinary Programs and the respective chairperson. May be repeated. Maximum 12 hours. Satisfactory/No Credit or letter grade.

491 Foreign Study (1-15) Registration by permission of Director of Interdisciplinary Studies.

492 Off-Campus Study (1-15) Registration by permission of Director of Interdisciplinary Studies.

493 Independent Study (1-15) Registration by permission of Director of Interdisciplinary Studies.

INTERIOR DESIGN (582)

141 Introduction to Interior Design (2) Orientation to the profession; relationship to allied field; contemporary development; philosophical approaches. Open only to majors in interior design and architecture or consent of instructor.

171 Visual Studies (3) Classification and properties of two and three-dimensional visual organization; design principles; visual and spatial elements within simple and complex visual systems; role of movement in experiencing scale and volumetric space. 3-hour studio. Open only to majors in interior design and architecture. Prereq: 141 or consent of instructor.

172 Introduction to Microenvironments (3) Human perceptions in micro-scale environments (residential, commercial, public spaces). Introduction to basic analytic and behavioral programming techniques. 3-hour studio. Open to interior design students only. Prereq: 171, Architecture 171, or consent of instructor.
200 Human-Environment Systems (3) Role of culture in defining environment; physical, social and conceptual aspects of human-environment systems; impact of environment on human behavior; feelings and values; mutual-casual properties of behavior-environment systems. (Same as Urban Studies 200.)

221 Theory of Color (2) Introduction to basic color theory and its application to interior environments. Explores aesthetics and psycho-physiological effects.

261 Materials and Resources for Interiors (2) The development and application of materials and resources used in interior architectural space. Prereq: 171 or Architecture 172 or consent of instructor.


272 Fundamentals of Interior Design II (6) Problem solving, spatial organization of micro environments, increasingly larger scale; communication of total design solution graphic, audio and photographic techniques; emphasis on the use of color. 6-hour studio. Prereq: 271.

311 History of Interior Architecture (4) Interior architecture, decoration and decorative arts within cultural context, ancient through nineteenth centuries, emphasis on Italy, France, England, and American. Prereq: Art History 172, 173 or consent of instructor.

312 History of Contemporary Interior Architecture (2) Interior architecture, furniture, design philosophies, nineteenth century roots for twentieth century developments, Europe and America. Design as influenced by movements in the fine arts, technological advances, cultural context. Prereq: 311 or consent of instructor.

331 Working Drawings (3) Building on previous computing skills, this course focuses on interior construction documentation through computer aided design application. Course will emphasize technical graphic conventions, codes and regulations affecting the health, safety, and welfare of public. 3-hour studio. Prereq: 272, Architecture 231 or equivalent.


371 Intermediate Interior Design I (6) Studio problems of intermediate complexity with emphasis on programming and schematic design phases; in-depth analysis of current programming methods; integrates and extends previous knowledge of spatial organization and planning of micro and macro environments. 6-hour studio. Prereq: 272 and third-year standing in interior design.

372 Intermediate Interior Design II (6) Studio problems of intermediate complexity; integrates and extends previous knowledge of working drawings, materials and sources, design methods, spatial organization and planning of micro and macro environments. 6-hour studio. Prereq: 371, Architecture 231.

400 Proxemics (2) Analysis of space and behavior within a cultural context. Application to design and the design process. Examination of theoretical foundations and concepts from environment and behavior. Simulation techniques and methods for identifying behavioral design requirements. 2-hour studio. Prereq: 200, 231. Coreq: 471 or consent of instructor.

411 History of American Interior Architecture (3) Historical developments in interior architecture and decorative arts within cultural context, colonial era through nineteenth century. Prereq: 311 or consent of instructor.

420 Practicum for Interior Design (3) Supervised experience in a professional design firm, business practices, project management and design philosophy. Prereq: 360, 372 and consent of instructor.

433 Digital Graphics for Interior Design (3) Theory and techniques of visual problem solving as applied to application of interior design. 3-hour studio. Prereq: 272, Architecture 231, cumulative 3.0 GPA.

460 Lighting for Interior Design (3) Lecture presentation of design principles in lighting, acoustics and mechanical systems. Course will emphasize fundamentals of lighting design practices and techniques. Prereq: 271, Physics 161, or consent of instructor. (QR)

464 Environmental Factors in Design (3) Human factors and associated research techniques and design methodologies related to the built environment.

471 Advanced Interior Design I (6) Non-residential studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. 6-hour studio. Prereq: 372, 420. Coreq: 400, or consent of the instructor.

472 Advanced Interior Design II (6) Comprehensive studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. 6-hour studio. Prereq: 471 or consent of instructor.

480 Furniture Design (4) Human factors data applied to design of body support, task support, storage and systems, construction drawings and scale models; advanced millwork design; materials and manufacturing processes. 2-hour lecture and 2-hour studio. Prereq: 471 or Architecture 372 or consent of instructor.

491 International Study (1-15) Individual or group studio and/or study abroad; academic research, field investigation, or studio experiences. Determination of credit based on particular international experience. Prereq: Consent of all interior design faculty.

493 Directed Studies in Interior Design (1-4) Student or staff initiated research or studio investigation of special topic. Elective credit only. Prereq: Consent of instructor. May be repeated. Maximum 8 hours.

ITALIAN (584)

111-112 Elementary Italian (3,3) Introduction to Italian. Must be taken in sequence. Language laboratory required.

199 Italian Language and World Business (2) This course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in language and world business. See director for further information.

211-212 Intermediate Italian (3,3) Sequence stresses reading, writing, listening and speaking Italian to prepare for upper division courses in the language. Must be taken in sequence. Language laboratory required. (CC)

311-312 History of Italian Literature (3,3) Chronological view of Italian Literature in relation to the specific historical developments that have influenced it. Prereq: 212 or equivalent.

314 Highlights of Italian Civilization (3) Survey of Italian civilization with special attention to major social, political and cultural achievements. Prereq: 212 or consent of instructor.

341-342 Intermediate Grammar, Composition and Conversation (3,3) Grammatical analysis of Italian prose; review of grammatical principles and their application in translation from English to Italian, both written and oral; exercises in free composition. Prereq: 212 or equivalent.

401 Dante and Medieval Culture (3) Introduction to the significance of this great Italian writer. Writing-emphasis course. Prereq: 212 or consent of instructor. (Same as Medieval Studies 401.)

402 Petrarch and Boccaccio (3) Writing-emphasis course. Prereq: 212 or consent of instructor. (Same as Medieval Studies 402.)

403 Literature of the Rinascimento (3) From Pucci to Tasso, the Quattrocento and the Cinquecento. Prereq: 212 or consent of instructor.

404 The Modern Italian Short Story (3) Prereq: 212 or consent of instructor.

406 The Modern Italian Novel (3) Prereq: 212 or consent of instructor.

409 Directed Readings (3)

410 Italian Theatre (3) Survey of Italian theatre from Renaissance to present. Prereq: 212 or consent of instructor.

414 Italian Cultural Studies (3) This course will examine Italian culture as a set of practices characteristic of Italian society, from its mode of material production to its eating habits, dress codes, celebrations, and rituals. The objective of the course is to achieve a greater understanding of contemporary Italian culture. Writing-emphasis course.

421 Topics in Italian Literature and Cinema (3) Examination of Italian literature and cinema from 1930 to the present focusing on literary works translated into English and adapted into film. Objectives of the course are to investigate the relationship between literature and cinema and to achieve a greater understanding of Italian culture since 1930. Films will be shown in Italian with English subtitles. Writing-emphasis course. May be repeated. Maximum 6 hours. (Same as Cinema Studies 421.)

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For language and world business majors only. Satisfactory/No Credit grading only.

491 Foreign Study (1-15)

493 Independent Study (1-15)
JAPANESE (589)

151-152 Elementary Japanese I, II (5,5) (See Asian Languages 151-152.)
251-252 Intermediate Japanese I, II (5,5) (See Asian Languages 251-252.) (CC)
313-314 Japanese Literature in English Translation (3,3) (See Asian Languages 313-314.)
351-352 Advanced Japanese I, II (4,4) (See Asian Languages 351-352.)
413 Topics in Japanese Literature (3) (See Asian Languages 413.)
451 Readings in Pre-Modern Japanese Literature (3) (See Asian Languages 451.)
452 Readings in Modern Japanese Literature (3) (See Asian Languages 452.)

JOURNALISM AND ELECTRONIC MEDIA (592)

201 Writing for Mass Media (3) Principles and practice of news writing for print and electronic media. Comprehensive overview of the major forms of writing for the mass media. Not available for majors in the College of Communication and Information. Prereq: English 102. (WC)
203 Print/Web Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on precise word use and news display. Prereq: 200.
275 Introduction to Electronic Media (3) Lecture and lab course providing students with an overview of radio, television, cable, satellite, and the Internet. Includes history, programming, regulations, and media effects. Prereq: Communication and Information 150.
280 Communication Graphics (3) Principles and practice in the visual aspect of communication. Emphasis on graphic design, typography, illustration and photography, printing and production techniques and publication design. Lecture and laboratory. Prereq: 200 or 201, or consent of instructor.
290 Photojournalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, digital photography, historical and contemporary photojournalism. Lecture and laboratory.
302 Readership and Audience Analysis (3) Measurement and analysis of readership/audience. Broad overview of methods used for newspaper, magazine, radio, television, cable, and the Internet. Applications to both internal decision-making and external communication in media. Prereq: 275 or consent of instructor.
315 Print/Web News Writing and Reporting (3) Gathering and writing news for publication in magazines and newspapers. Prereq: 203.
320 Mass Media Commercial Writing and Promotion (3) Study of media (print, radio, television, cable, Internet) commercial writing and promotion with an emphasis on writing persuasive messages. Analysis of markets and research data. Planning promotional campaigns. Prereq: 200 and 275.
335 Electronic Media Production (3) Introduction to the basic production tools and techniques used to develop effective media communication. Lecture and laboratory provide experience in studio production process and procedures. Includes concept development, script writing, message design, applied aesthetics, crew management, and producing. Prereq: 275.
360 Electronic Media Performance (3) Development of vocal, visual, and performance skills for announcers, interviewers, newscasters, and reporters. Laboratory hours required. Prereq: 275.
400 Mass Communication Law and Ethics (3) Emphasis on legal issues affecting print and electronic media, including libel, privacy, copyright, free press-fair trial, governmental regulations of advertising, electronic media and public relations. Also includes ethical standards and practices. Prereq: Consent of instructor. (Same as Legal Studies 400.)
411 Electronic News Gathering (3) Writing, reporting, shooting, editing, and producing for the electronic news media. Lecture and lab course providing students with experience as reporters/producers for a television and cable news program. Includes an overview of electronic news-gathering equipment as well as non-linear video editing. Prereq: 311.
412 Opinion Writing (3) Analysis of editorial positions and practices. Writing editorials/columns for newspapers, magazines, corporate publications, and electronic media (radio, television, cable, Internet), with emphasis upon study and use of rhetorical devices and logic. Prereq: Consent of instructor.
414 Magazine and Feature Writing (3) Techniques of writing features and in-depth articles for mass circulation and specialized magazines or newspapers. Organizing and presenting material, with attention to problems in areas such as business, science, agriculture, and the humanities. Prereq: 203 or consent of instructor. (WC)
415 Magazine Industry Workshop (3) Introduction to the magazine industry including management, design, writing and editing, and interactivity. Analysis of print and electronic format magazines. Planning new products for the marketplace. Prereq: 414 or consent of instructor.
420 Media Sales (3) Problems and practices of newspaper, radio, television, cable, and Internet advertising sales. Practical experience in radio and television sales. Use of ratings and new technology in sales presentations. Prereq: 302 and 320.
430 Public Affairs Reporting (3) Reporting (including database reporting) and writing about courts, government and public agencies. Event and issue-oriented journalism of politics and public affairs. Prereq: 315.
433 Editing and Layout for Print/Web (3) Editing and layout for newspapers, magazines and online publishing. Prereq: 203 or consent of instructor.
435 Electronic Field Production (3) Basic principles of digital video production on location. Emphasis on concepts relating to message design, development, and production in the field. Includes writing, digital shooting, and non-linear editing for non-news formats. Prereq: 335 or consent of instructor.
440 Corporate Video (3) Examination of the special requirements of business, industrial, educational and medical uses of video. Includes management, budgeting, planning, producing, and evaluating projects. Prereq: Consent of instructor. (WC)
444 Journalism as Literature (3) Study of writers from the 17th century to the modern era whose works have endured as both journalism and literature. An emerging genre called literary journalism will be examined as a means of cultural reporting with a personal narrative style. Prereq: Consent of instructor. (WC)
450 Writing about Science and Medicine (3) Writing workshop to analyze examples of successful science writing and write series of articles for general public based on scientific journals, news conferences, technical meetings and interviews. Prereq: Consent of instructor. (Same as Information Sciences 450) (WC)
451 Environmental Writing (3) Writing for news media (including the Internet) on such environmental issues as sprawl, forests, air pollution, energy, and invasive species. Students hear presentations from and interview experts in environmental science and reporting. Exemplary environmental writing is analyzed. Prereq: Consent of instructor. (WC)
455 Issues in Science Communication (3) Topics vary. Prereq: Consent of instructor. May be repeated.
456 Science Writing as Literature (3) Survey of important science writing for the general public across the spectrum of science, engineering, and medicine. Works by authors such as Arthur C. Clarke, Stephen J. Gould, and Richard Selzer will be analyzed for literary qualities in a quest to understand why some science writing succeeds. Prereq: Consent of instructor. (WC)
457 Media and Society (3) Media processes and effects on society. Major theories/research are introduced and applied to current issues. Prereq: 200 and 275 or consent of instructor.
465 Media and Diversity (3) Media coverage and portrayal of various social groups based on gender, class, and race/ethnicity. Effects of media on public perceptions and attitudes toward these groups. Discussion of historical and legal implications of media effects. (Same as Women’s Studies 465.)

470 Cable, Broadband, and Interactive Digital Media (3) History and structure of cable television and other broadband delivery systems (DBS, Internet, etc.). Development of digital broadcasting, interactive television, and other broadband media systems and digital technologies. Regulatory, policy, programming, and management issues arising from new media and digital technologies. Prereq: 275 or consent of instructor.

475 Sports Writing (3) Writing sports stories, features and columns. Sports writing is considered from the standpoint of sports reporters, sports information specialists and others with an interest in writing about sports.


485 Media Management (3) Business policies and practices of newspaper, broadcast, cable, and Internet operations. Departmental functions, cost and income analysis, leadership styles and techniques with an emphasis on mid and senior level management. Job-hunting guidelines provided. Prereq: 6 hours math and/or accounting, and senior standing.

488 Web Publishing (3) Cross-disciplinary approach to design and production of on-line publications. Emphasis on researching, planning, site content and design, and the economic, legal and ethical issues involved in online publishing. Prereq: Senior standing and consent of instructor.


491 Foreign Study (1-15) Advance approval of hours and topics by advisor required for registration. May be repeated. Maximum 15 hours.

492 Practicum (1-2) Work and learning experience at newspaper, radio, television, cable, Web, or other non-broadcast facilities. Final written report required. Prereq: Senior standing or consent of instructor. Satisfactory/No Credit grading.

493 Independent Study (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

494 Special Topics (3) Topics vary. May be repeated. Maximum 6 hours.

498 Internship (3) Full-time (30-40 hours per week) work experience in news, production, or sales and management with non-university professional organization. Educational experience beyond that available at university. Final term paper. No retroactive credit for previous work experience. Prereq: Senior standing, completion of core curriculum and at least 15 hours of Journalism and Electronic Media courses, GPA 3.0 or better, and consent of unit head.

LEGAL STUDIES (600)

244 Professional Responsibility (3) (See Philosophy 244.) (AH) (OC)

301 The Legal Environment of Business (3) (See Business Law 301.)

330 Law in American Society (3) (See Political Science 330.)

331 Sociological Research (3) (See Sociology 331.)

340 Women, Politics, and the Law (3) (See Women’s Studies 340.)

341 Judicial Process (3) (See Political Science 341.)

362 Roman Law (3) (See Classics 362.)

392 Philosophy of Law (3) (See Philosophy 392.)

393 Global Justice and Human Rights (3) (See Philosophy 393.)

400 Mass Communication Law and Ethics (3) (See Journalism and Electronic Media 400.)

401 Political Analysis (3) (See Political Science 401.)

430 United States Constitutional Law: Sources of Power and Restraint (3) (See Political Science 430.)

431 United States Constitutional Law: Civil Rights and Liberties (3) (See Political Science 431.)

435 Criminal Law and Procedure (3) (See Political Science 435.)

442 Administrative Law (3) (See Political Science 442.)

445 Administration of Justice (3) (See Political Science 445.)
LOGISTICS (626)

310 Intermediate Logistics (3) The concepts, principles, and methods used to plan, organize, and manage logistics activities in a global environment. Activities covered include: customer service, order fulfillment, inventory, materials and distribution planning, transportation, warehousing, and network design. Prereq: Business Administration 331.

411 Logistics Analytical Methods I (3) Introduction to the principle analytical tools and models that are used in logistics; application of the analytical tools to logistics problems; using these techniques to support negotiations in a global business world. Prereq: 310. Coreq: 411.

412 Logistics Analytical Methods II (3) Advanced analytical tools and techniques used to solve strategic, tactical, and operational global supply chain problems; managing the use of quantitative analytical tools in logistics. Prereq: 310. Coreq: 411.

413 Logistics Operations Management (3) Analysis of logistics operations and management techniques applied to warehousing/distribution center operations, purchasing and operation of transportation services, and logistics personnel management. Prereq: 310. Coreq: 411.

421 Procurement and Supply Management (3) Addresses the processes that facilitate the structure, development, and management of value added transactions and relationships between supplier and customer organizations in a global supply chain context. The course examines the management of the business purchasing function, including supplier selection and development, quality control, cost management, and performance measurement. Prereq: 411.

460 Strategic Logistics in a Global Supply Chain Environment (3) Capstone course for logistics, with emphasis on strategic logistics from a global supply chain perspective. Integrates logistics concepts, framework, processes and tools learned in previous logistics coursework. Prereq: 411.

492 Logistics Off-Campus Study (1-6) Prereq: Consent of instructor. Satisfactory/No Credit grading only. May be repeated. Maximum 6 hours.

493 Independent Study (1-6) Directed research on subject of mutual interest to student and staff member. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

MANAGEMENT (625)

300 Organizational Management (3) Not for business majors. The study of the theories of organizations and the practice of management within them. Prereq: Business Administration 201 and junior standing.

401 Business Strategy/Policy (3) Strategy and policy which affect the character and success of the total enterprise. Capstone course which integrates all functional areas in the formulation and implementation of strategy which will enable the organization to reach objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.

431 Human Resource Management I (3) Theory, methods, and issues pertaining to successful personnel management. Prereq: Business Administration 341, senior standing.

440 Organizational Psychology (3) (See Psychology 440.)

471 International Management (3) Factors significant to the manager in international business activities. Prereq: Business Administration 361.

472 International Human Resource Management (3) Introduction to international human resource management from the perspective of the multinational firm. Topics include: globalization and human resource strategy, understanding culture in the management of human resources, intercultural differences, selecting employees for international assignments, training and developing expatriate employees, and evaluation and compensation of employees in international assignments. Prereq: Business Administration 201.

481 Experiential Cross-Cultural Leadership (3) Examination of the challenges and opportunities of leading people and organizations in cross-cultural settings through experiential methodologies. Topics include: multinational organizational culture, intercultural communications, intercultural decision-making, managing political risks, and motivation and leadership in cross-cultural settings. Prereq: Business Administration 361.

492 Management Off-Campus Study (1-6) Prereq: Consent of instructor. Satisfactory/No Credit grading only. May be repeated. Maximum 6 hours.

493 Independent Study (3) Readings, research, and special projects. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

MARKETING (632)

300 Marketing and Supply Chain Management (3) Practical applications-oriented overview of what every manager needs to know in order to effectively provide value to customers of the organization, and improve long-term performance through the systematic, strategic coordination of traditional business functions within a particular company and across businesses. Prereq: Business Administration 201 and Junior standing. Not for business majors.

340 Marketing Strategy Frameworks (3) Examines the marketing strategies that customer focused organizations use to acquire and retain customers. Students learn skills needed to create and implement these strategies. Topics include market opportunity analysis, marketing strategy planning, segmentation and targeting decisions, value positioning decisions, customer focused strategies (e.g., Integrated Marketing Communication, brand equity, Customer Relationship Management), and translation of customer learning into marketing strategy. Prereq: Business Administration 332.
345 Marketing Analytics (2) Develops students’ analytical and decision-making skills through specific exercises and examples that apply various statistics principles to marketing-specific content. Students learn how to organize data into customer databases and how to analyze those databases through learning of statistical techniques, decision analysis techniques, and spreadsheet analysis techniques. Prereq: Business Administration 332. Coreq: 340.

350 Customer Value Analysis (3) Examines how organizations conceptualize, gather, analyze, and interpret data needed by managers to learn about customers in markets. Topics include selected consumer/customer behavior theories, customer value determination, and selected marketing research techniques. Prerequisite: 340. Marketing major and co-concentration students only: 350 is a Prereq/Coreq for 452, 456, and 458.

400 Special Topics in Marketing (3) Topics of current interest in marketing. Topic announced prior to offering. Prereq: Business Administration 332. May be repeated provided topic is different. Maximum 6 hours.

452 Product/Service Management (2) Examines how organizations deliver value to customers through product and service strategies. Topics in product management include new product development, product life cycle, product mix management, and brand marketing. Topics in services management include service design, service delivery, service quality/productivity, service failure/recovery, and role of technology. Prereq: 340. Marketing major and co-concentration students only: 350 is a Prereq/Coreq for 452.

456 Integrated Marketing Communications Management (2) Examines how organizations communicate value to customers. Communication topics will be presented in the framework of an Integrated Marketing Communication strategy. Topics will include advertising management, sales promotion, publicity and public relations, sponsorship marketing, direct marketing and e-marketing. Prereq: 340. Marketing major and co-concentration students only: 350 is a Prereq/Coreq for 456.

458 Sales Force Management (2) Examines how organizations communicate value to customers through face-to-face selling. Focuses on the activities and problems of sales representatives and first line sales managers. Topics include the selling process, sales force organization, recruiting, motivating, forecasting, territory design, and evaluation. Prereq: 340. Marketing major and co-concentration students only: 350 is a Prereq/Coreq for 458.

460 Global Marketing Strategy (3) Capstone course for Marketing to integrate concepts, frameworks, processes and tools presented in all prior coursework. Students examine the application of marketing knowledge and skills in a global context, with particular emphasis on how organizations respond with global marketing strategies. Prereq: 350 and two of the following—452, 456, or 458.

492 Marketing Off-Campus Study (1-6) Prereq: Consent of instructor. Satisfactory/No Credit grading only. May be repeated. Maximum 6 hours.

493 Independent Study (1-6) Directed research on subjects of mutual interest to student and staff member. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

MATERIALS SCIENCE AND ENGINEERING (638)

101 Advances in Materials Science and Engineering (1) Review modern advances in Materials Science and Engineering. Expose students to a variety of materials science and engineering case studies to demonstrate the societal impact of materials science and engineering profession. Satisfactory/No Credit grading only.

201 Introduction to Materials Science and Engineering (3) Correlation of atomic structure, crystal structure and microstructure of solids with mechanical, physical and chemical properties of engineering significance. Prereq: Chemistry 120.

220 Selection and Use of Soft Goods Manufacture (3) Study of textile products for apparel and interior furnishings; emphasis on the selection of fibers, yarns, fabrics, finishes and construction details to optimize properties needed for particular end uses.

250 Introduction to Materials Kinetics and Transport Phenomena (4) Mass and energy balances; reaction kinetics; steady state and transient heat transfer; viscous flow of gases and liquids; applications to synthesis and processing of materials and technologies; analytical and numerical problem solving. 3 hours lecture, 1 hour lab. Prereq: Mathematics 142; Coreq: MSE 201, Mathematics 231.

260 Materials Engineering Thermodynamics (3) Thermodynamic laws; entropy, internal energy, state functions; one-component and two-component phase equilibria; characteristics of small and large molecular systems; solid/liquid/vapor phase; material defects. Prereq: Engineering Fundamentals 152, Chemistry 130, Mathematics 142. Coreq: 201.

290-291 Materials Seminar (0,1) Professionalism, ethical considerations, safety, patents, product liability, field trips, industrial speakers, materials science in a global/societal context, teamwork, contemporary issues, life-long learning. May be repeated up to four times. Satisfactory/No Credit grading only.

300 Materials Laboratory Procedures (1) Thermometry, sample preparation for microscopic examination; word processing and graphics usage, data analysis, report writing. Prereq: 201.

301 Application of Statistical and Numerical Techniques in Engineering (3) See Chemical Engineering 301.

302 Mechanical Behavior of Materials I (3) Fundamentals of deformation and fracture in solids including metals, ceramics, polymers, and composites. Topics include: stress and strain tensors; isotropic and anisotropic elasticity; anelastic and viscoelastic deformation; plasticity; tensile testing; mechanisms of plastic deformation in crystalline solids; basic strengthening mechanisms; elementary fracture mechanics. Prereq: 201 or consent of instructor.


320 Diffusion and Phase Transformations (3) Introduction to diffusion in solids; the diffusion equations, point defects and atomic mechanisms of diffusion. Thermodynamics of phase equilibrium. Introduction to the kinetics and morphology of phase transformations. Prereq: 201, 250, 260.

340 Principles of Polymeric Materials (3) Synthesis and molecular structure of polymers; polymerization kinetics; molecular characterization; crystalline and glass transitions; crystallization kinetics; mechanical properties; rheology and processing. Prereq: 201.

350 Principles of Electronic, Optical, and Magnetic Materials (3) Fundamental electronic, optical, and magnetic properties of solid state materials. Basic bonding and crystallography correlations to electronic, optical, and magnetic properties of materials. Specific subjects that will be covered include: wave properties of electrons, Schrodinger’s equation, energy bands in crystals, electrical conduction in metals and semiconductors, classical and quantum mechanical treatments of optical properties, and magnetic phenomena. Prereq: 201.

360 Principles of Ceramic Materials (3) Characterization of ceramic materials as to their crystal structure, their mechanical, electrical, and optical properties. Ceramic fabrication processes from the initial green body fabrication through the firing state. Prereq: 201.

370 Materials Processing (3) Application of fundamentals of mass and energy balance, mechanics, heat and mass transfer, chemical thermodynamics and kinetics to the processing of materials and manufacturing of products. A wide range of materials (metals, ceramics, polymers), geometries (bulk, fibers, films, coatings) and processes (casting, molding, extrusion, forging, powder processing, coating techniques, etc.) are studied as examples of processing technologies. Elementary ideas of process measurement and control. Prereq: 201, 230; Chemical Engineering 201, 240, or equivalent.

390 Principles of Metallic Materials (3) Property control through composition, mechanical and thermal processing; ferrous and nonferrous alloys; alloy selection. Prereq: 201.

405 Structural Characterization of Materials (4) X-ray diffraction and fluorescence; scanning and transmission electron microscopy; microanalytical techniques. (WC)


421 Mechanical Behavior of Materials II (3) Description of stress and strain; linear elastic constitutive equations, isotropic and anisotropic moduli in various materials; yield criteria; brittle fracture; crazing; plastic strain constitutive equations, forming operations and limit criteria. Prereq: 302, Engineering Science 321, sophomore mathematics.
429 Introduction to Ceramic Matrix Composites (3) Characteristics of composites, including ceramic matrix composites; macromechanics and materials design; overview of fabrication techniques; microstructural characterization; physical and mechanical property evaluation; current and potential applications. Prereq: 201, Engineering Science 321, or equivalent.

445 Polymer Engineering Processing and Characterization Laboratory (3) Polymer film casting, film blowing, mixing and extrusion are operated and studied. Flow rates, temperatures, pressures and velocity profiles are acquired and used in finite element modeling and simulation to correlate the polymeric material properties and morphology. Supporting instrumentation includes linear viscoelastic rheometry, capillary viscometry, SEM, OM, FTIR, etc. Coreq: 201 and consent of instructor.

470 Environmental Degradation of Materials (3) Mechanisms, measurement techniques and control of environmental degradation processes in metals, polymers, ceramics and composites; materials selection and design considerations. Prereq: 201. Recommended for chemical engineering, mechanical engineering, civil engineering, engineering science and mechanics majors.

472 Fundamental Principles of Composite Materials (3) Physical principles basic to the design, manufacture and application of fiber reinforced polymers, metals and ceramics. Prereq: 302 or equivalent.

474 Biomaterials (3) Metals, polymers and ceramics utilized in orthopedic, cardiovascular, and dental surgical implant devices; corrosion and degradation problems; material properties of primary importance; tissue response to synthetic materials. Prereq: 201. Recommended for engineering science and mechanics majors.

476 Overview of Intermetallic Compounds and Composites (3) Fabrication and processing, ultrafine-grained materials nanotechnology, thermodynamics and stability, microstructural characterizations, mechanical properties, corrosion and oxidation properties, theoretical modeling, and design and industrial applications of intermetallics and composites. Laboratory demonstrations and group projects. Prereq: 201.

480 Materials Selection in Design (3) Systematic materials selection in design. Review of material properties; use of property selection charts and indices. Materials selection, with and without shape constraints; materials processing in design; case studies. Sources of material property data, utilization of material data bases. Industrial design, aesthetics, economics, regulations, forces for changes. Prereq: Junior standing.

484 Introduction to Maintainability Engineering (3) (See Nuclear Engineering 484)


494 Special Project Laboratory (1-3) Group or individual investigation of problems related to materials science and engineering. Prereq: 201, consent of instructor. May be repeated. Maximum 6 hours.

495 Thesis (3) Research problems in materials science and engineering with prior approval of a professor. Prereq: Senior standing or consent of instructor. May be repeated. Maximum 6 hours.

MATHEMATICS (641)

100 Intermediate Algebra (3) First degree equations and inequalities, polynomials, rational expressions, exponents, graphing, second degree equations and inequalities, systems of equations, introduction to exponential and logarithmic functions. The course is designed to prepare students for enrollment in Mathematics 119, 130, 201, and 202. Course does not count toward the total number of hours required for graduation, nor does it fulfill any mathematics requirement. A, B, C, No Credit grading.

109 Algebra Workshop (1) Self-paced tutorial center for students taking 119, 125, 130, or 141 who need additional help (as determined by placement exams, assessment exams, or classroom performance). Individual and computerized instruction on various pertinent algebra and trigonometry skills. Student must be concurrently enrolled in 119, 125, 130, or 141. May be repeated. Maximum 3 hours. Satisfactory/No Credit grading only.

113 Mathematical Reasoning (3) Classical and modern topics in number theory, logic, geometry, and probability with emphasis on problem solving. Consumer mathematics and other real-world applications. (QR)

115 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. (QR)

117 Honors: Mathematical Reasoning (3) Topics will be selected from: number theory, logic, geometry, elementary topology, fractals, or probability with an emphasis on problem solving. Consumer mathematics, fair division, voting theory or other real-world applications may be included. Prereq: ACT composite score of at least 31 (or 1380 SAT) or consent of instructor. (QR)

119 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 123 or 125 but whose placement test scores indicated additional preparation is necessary. Prereq: Satisfactory placement test scores or 100. This course should not be taken to remove an entrance requirement. Students who receive a grade of C or better in any course numbered 123 or higher (except for 201 or 202) may not subsequently receive credit for 119.

123 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, interest and annuities, linear systems and matrices, optimization. Prereq: Satisfactory placement test score or 119 or 130. (QR)

125 Basic Calculus (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Calculus of algebraic, exponential, and logarithmic functions, with applications. Prereq: Satisfactory placement test score, or 119 or 130. No student who has received credit for 141 or 152 with a grade of C or better may subsequently receive credit for 125. (QR)

130 Precalculus I (4) Review of algebraic, logarithmic, exponential, and trigonometric functions for students who satisfy the course prerequisites for 141 or 151, but whose placement test scores indicate additional preparation is necessary. Coreq: 109 for students who did not study trigonometry in high school or college. Students who did not study trigonometry in high school may take the noncredit course in trigonometry simultaneously with 130. Students who have earned a grade of C or better in 141 or 151 may not subsequently receive credit for 130.

141-142 Calculus I, II (4,4) Standard first-year course in single variable calculus, especially for students of science, engineering, mathematics, and computer science. Differential and integral calculus with applications. Prereq: Satisfactory placement test scores, or 130. (QR)

147-148 Honors Calculus I, II (4, 4) Honors version of 141-42 for well-prepared students. Students having 32 Mathematics ACT, 700 Quantitative SAT scores, or permission from the instructor may enroll in Mathematics 147. Students with the above scores and credit for Mathematics 141, an AP Calculus AB score of 5, or permission of the instructor, may enroll in Mathematics 148. Credit will not be given for both 147 and 141 or 152. (QR)

151-152 Mathematics for the Life Sciences I, II (3,3) For students majoring in the Life Sciences. Does not serve as a prerequisite for 231 or 241. Topics include: descriptive statistics, linear regression, discrete probability, matrix algebra, difference equations, calculus, and differential equations. Emphasis on applications in the life sciences. Includes computer projects. Prereq: Two years of algebra, one year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Students who receive a grade of C or better in Mathematics 141 cannot subsequently receive credit for 152. (QR)

171 Computer Literacy for Mathematics (3) Introduction to computers, the internet, mathematical packages and programming for prospective mathematics majors. Prereq: 141.

200 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering and College of Business statistics majors only. Prereq: 241 or 247. Students who have received a grade of C or better in 251 may not subsequently receive credit for 200.

201 Structure of the Number System (3) Problem solving, sets and relations, number systems, integers, elementary number theory, rational numbers and decimals. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.

202 Probability, Statistics, and Euclidean Geometry (3) Probabilities in simple experiments, measures of central tendency and variation. Basic plan and three-space geometry, congruence and similarity, constructions with compass and straightedge, transformations, area and volume measurement. Turtle graphs. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.

241 Calculus III (4) Calculus of functions in two or more dimensions. Includes solid analytic geometry, partial differentiation, multiple integration, and selected topics in vector calculus. Prereq: 142 or 148.

247 Honors: Calculus III (4) Prereq: 147-148 or invitation of the department.

251 Matrix Algebra I (3) First course in the algebra of simultaneous linear equations and matrices. Includes Gaussian elimination, determinants, vector spaces, linear transformations, eigenvalues, and eigenvectors. Prereq: 141-142.

257 Honors: Matrix Algebra I (3) Prereq: 148 or invitation of the department.

299 Studies in Mathematics (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

300 Introduction to Abstract Mathematics (3) Algebra of sets, functions, relations, mathematical induction, algebraic structure of the real number system, order properties, and completeness. Prereq: 142.

323 Probability and Statistics (3) Discrete and continuous random variables; conditional probability, expectation, moment generating functions; law of large numbers, central limit theorem. Elements of statistical inference, estimation, and hypothesis testing. Prereq: 241 or 247, 300.

341 Analysis I (3) Introduction to the theory of the real number system, limits of sequences, and functions of a real variable. Prereq: 241 or 247, 300.

351 Algebra I (3) Introduction to abstract algebra, emphasizing integers and polynomial rings. Prereq: 251 or 257, 300.

371 Numerical Algorithms (3) Development and application of fundamental algorithms for finding roots of equations, solving systems of linear equations, interpolating, fitting data using least-squares, differentiation, integration, and solving ordinary differential equations. Prereq: A high level programming language (e.g., 171 or Computer Science 102), 231, 241 or 247, and basic matrix algebra (e.g., 200 or 251 or 257).

399 Studies in Mathematics (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

400 History of Mathematics (3) Development of major ideas in mathematics from ancient to modern times and the influence of these ideas in science, technology, philosophy, art, and other areas. Prereq: 251 or 257, 300. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

401 Mathematics and Microcomputers (3) Primarily for students seeking certification as mathematics teachers at the secondary level. The use of microcomputers to study concepts and problems in mathematics. Does not satisfy major requirements for a Bachelor of Science or Master of Science in Mathematics. Prereq: 141 or 147.

403 Mathematical Methods for Engineers and Scientists (3) Matrix computations, numerical methods, partial differential equations, Sturm-Liouville Theory and special functions as used in engineering and science. Does not satisfy major requirements for a Bachelor of Science or Master of Science in Mathematics. Prereq: 231, 241, and familiarity with an operating system and a programming language (e.g., 171 or Computer Science 102).

404 Applied Vector Calculus (3) Topics from multivariable and vector calculus including line and surface integrals, the divergence theorem and the theorems of Gauss and Stokes. Prereq: 241 or 247.

405 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 142 or 148 or 152.

411 Mathematical Modeling (3) Construction and analysis of mathematical models used in science and industry. Projects emphasized. Prereq: 231, 241, and 251 or 257. Writing-emphasis course.

421 Combinatorics (3) Introduction to problems of construction and enumeration for discrete structures such as sequences, partitions, graphs, finite fields and geometries, and experimental designs. Prereq: 325 or consent of instructor.

423 Probability I (3) Axiomatic probability, multivariate distributions, conditional probability and expectations, methods of moment generating/characteristic functions. Laws of large numbers and the central limit theorem. Prereq: 300-level probability or consent of instructor.

424 Probability II (3) Elements of stochastic processes: Random walk, Markov chains and Poisson processes. Other topics as selected by the instructor. Prereq: 423.

425 Statistics (3) Derivation of standard statistical distributions including t, F and X2; independence of sample mean and variance; basic limit theorems; point and interval estimation, Bayesian estimates; statistical hypotheses, Neyman-Pearson theorem; likelihood ratio and other parametric and nonparametric tests; sufficient statistics. Prereq: 423 or consent of instructor.


443 Complex Variables I (3) Introduction to the theory of functions of a complex variable, including residue theory and contour integrals. Prereq: 241 or 247.

445-446 Advanced Calculus I, II (3,3) Introduction to the theory of sequences, series, differentiation, and Riemann integration of functions of one or more variables. Prereq: 241 or 247, 300 or consent of instructor.

447-448 Honors: Advanced Calculus I, II (3,3) Honors version of 445-446. Prereq: 341 or consent of instructor.

453 Matrix Algebra II (3) Advanced topics in matrix theory, including the Jordan canonical form. Prereq: 251 or 257.

455-456 Abstract Algebra I, II (3,3) Introduction to algebraic structures such as groups, rings, fields, vector spaces and linear transformations. Prereq: 251 or 257 and 300, or consent of instructor.

457-458 Honors: Abstract Algebra I, II (3,3) Honors version of 455-456. Prereq: 351 or consent of instructor.

460 Geometry (3) Axiomatic and historical development of neutral, Euclidean, and hyperbolic geometry stressing proof technique and critical reasoning. Models of Non-Euclidean geometries. Prereq: 300 or consent of instructor.

461 Topology (3) Includes topology of line and plane, separation properties, compactness, connectedness, continuous functions, homeomorphisms, continua, and topological invariants. Prereq: 241 or 247, 300 or consent of instructor.

471 Numerical Analysis (3) Introduction to computation, instabilities, and rounding. Interpolation and approximation by polynomials and piecewise polynomials. Quadrature and numerical solution of initial and boundary value problems of ordinary differential equations, including stiff systems. Prereq: 371 or consent of instructor. (Same as Computer Science 471.)


475 Industrial Mathematics (3) Modeling, analysis, and computation applied to scientific/technical/industrial problems. Prereq: 231 and familiarity with an operating system and a programming language (e.g., 171, 371, or Computer Science 102).

490 Readings in Mathematics (1-3) Independent study with faculty guidance. Prereq: Approval of faculty mentor to supervise independent work. May be repeated. Maximum 9 hours.

495 Seminar in Actuarial Mathematics (1-3) Introduction to principles and problem solving techniques in actuarial sciences with emphasis on the mathematical topics included in the initial Actuarial Exams. Prereq: 241, 251, 323.

497 Undergraduate Honors Seminar (2) Open to students in the mathematics department undergraduate honors program. Forum for presentation of student theses and other undergraduate research projects. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

499 Seminar in Mathematics (1-3) Topics will vary. Will require out-of-class projects and in-class presentations by students. Students must register for the number of credit hours announced for a particular seminar. Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

MATHEMATICS EDUCATION (642)

485 Teaching of Mathematics, Grades 7-12 (3) Preparation of teaching plans, evaluation, materials for teaching mathematics; teaching simulation and directed observation in schools. Prereq: Admission to Teacher Education Program.
MECHANICAL ENGINEERING (650)

231 Dynamics 3 Kinematics of rigid bodies; center of mass; kinetics of systems of particles; mass moments of inertia; kinetics of rigid bodies; Newton’s laws, work-energy, impulse-momentum. Prereq: Engineering Fundamentals 152, 202; Mathematics 142.


331 Thermodynamics 3 Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; ideal gas processes; application to engineering problems. Coreq: Mathematics 241.


345 Mechanical Engineering Instrumentation and Measurement (3) Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurements. Prereq: Aerospace Engineering 341, Electrical and Computer Engineering 301. Coreq: 363.

363 System Dynamics 3 Free and forced vibrations of damped and undamped lumped parameter systems; transient and frequency response of lumped parameter systems; introduction to feedback control systems. Coreq: 345.


401 Thesis 3 Research and design problems in mechanical engineering with prior approval of instructor. Prereq: Senior standing or consent of instructor.

405 Microcomputer-Based Control of Electromechanical Systems 3 Application of microcomputers to control electromechanical devices. Application and theory: dynamics of machine control, assembly language programming, microcontroller architecture, stepping and DC motor, photoelectric devices, A/D, D/A, integrated circuits. Prereq: Electrical and Computer Engineering 201 or 301 and consent of instructor.


410 Professional Development (2) Topics relating to professional responsibility, communications, and organization. Formal oral presentation by each student on an engineering topic chosen by the student and approved by the Instructor. Prereq: English 102, Senior standing. (OC)

449 Mechanical Engineering Laboratory (3) Designing, conducting and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions. 3 hours lab per week. Prereq: 344, 345. Coreq: 475.

450 Mechanical Engineering Design I (1-4) Design process, synthesis, design studies. Coreq: 363. May be taken once for 1-4 hours credit.

451 Control Systems 3 Analysis and design of feedback control systems using transient and frequency response techniques, stability analysis in the time and frequency domain. Prereq: 363.

452 Finite Element Analysis 3 Conversion of fundamental conservation principles in mechanics to simulation form via finite element implementation; applications in heat transfer, solid mechanics, mechanical vibrations, fluid mechanics and heat/mass transport. Extensive computer laboratory experiments using Matlab-based and commercial software systems. Prereq: 321, 344, 363.

457 Engineering Entrepreneurship 3 Technology and innovation, technology transfer, patent protection, legal formation and intellectual property, knowledge management, generation, and transmission, creating a business plan and marketing plan, launching a technology based business, sources of capital, small business growth and operation. Prereq: Senior standing or consent of instructor.

460 Mechanical Engineering Design II (1-4) Synthesis and design of a complete mechanical engineering system. Participation in team design effort including formal oral presentations and written design report. Prereq: 450. May be taken once for 1-4 hours credit.


467 Smart Structures and Materials 3 Fundamentals of electromechanical properties of ferroelectric materials (piezoelectric and electrostrictive), shape memory alloys, and other electrically and magnetically activated materials, with application. Course includes semester project. Prereq: 231, 321.

475 Thermal Engineering 3 Thermal systems with emphasis on turbomachinery, heat exchangers, combustion and system analysis and design including second law and economic analysis. Prereq: 332, 344.

480 Introduction to Hybrid Electric Vehicles 3 Steady-state HEV force and power modeling. Introduction to internal combustion engines, motors, energy storage systems and control strategies. Powertrain design and analysis using various computer simulation tools. Coreq: 475.

483 Introduction to Reliability Engineering 3 (See Nuclear Engineering 483.)

484 Introduction to Maintainability Engineering 3 (See Nuclear Engineering 484.)

494-495 Selected Topics in Mechanical Engineering (1-4,1-4) Problems and topics related to developments and practice in mechanical engineering. Prereq: Consent of instructor.

MEDICAL TECHNOLOGY (669)

Courses are open only to qualified students who have completed the first three years of the Medical Technology curriculum.


420-421 Clinical Chemistry (5,5) Clinical aspects of biochemistry, including overview of principles and instrumentation with emphasis on practical laboratory application of analytical procedures, specimen collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radioimmunoassay, and analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques, physical characteristics, detection, and use of short half-life radioactive materials for in vivo procedures such as radioimmunoassay which utilize radioisotopes.

430-431 Hematology and Clinical Microscopy (4,4) Principles, theories, and instrumentation related to qualitative and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis, quantitative chemical analysis of urine, and renal function studies. Emphasis on microscopic identification of cells and the significance and correlation of laboratory data.


450 Clinical Serology and Immunology (2) Performance and interpretation of broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.
470 Orientation and Basic Techniques (1) For facilitation of students from campus to hospital community and clinical laboratory. Introduction to medical terminology, ethics, and health team concept. Orientation to basic techniques including procedures for collection and handling of specimens, principles of operation of many laboratory instruments, review of laboratory math, and introduction to quality control procedures. Portions of course extend over entire clinical year.

480 Principles of Supervision and Education in Medicine (1) Seminars in basic principles of management, supervision, and education theories and methods. Comprehensive examination covers entire course.

MEDIEVAL STUDIES (674)
201-202 Medieval Civilization (3,3) Introduction to basic themes in the medieval experience, approached from interdisciplinary points of view and including philosophy and religion, art and architecture, language and literature, social and political history. Writing-emphasis course. (CC)

261 Medieval Culture: Readings from the Early Middle Ages, 500-1000 (3) Critical analysis and interpretation of selected works from the early medieval period. Focuses on major types of literature produced during the period 500-1000 AD, e.g., cultural, religious, rhetorical, lyric, epic, biographical. Includes Augustine’s Confessions, Boethius’ Consolation, St. Gregory’s Life of St. Benedict, The Life of Charlemagne, etc. Writing-emphasis course.

262 Medieval Culture: Readings from the Later Middle Ages, 1000-1500 (3) Critical analysis and interpretation of selected works from the later medieval period. Focuses on romantic, allegorical and mystical writings from the high and later Middle Ages, e.g., the Song of the Nibelungen, the Romance of the Rose, St. Bernard’s Commentary on the Song of Songs, Peter Abelard’s History of My Calamities. Should be taken in sequence with 261, Writing-emphasis course.

312-313 Medieval History (3,3) (See History 312-313.)
322 Medieval Philosophy (3) (See Philosophy 322.) (WC)
401 Dante and Medieval Culture (3) (See Italian 401.)
402 Petrarch and Boccaccio (3) (See Italian 402.)
403 Seminar in Medieval Studies (3) Interdisciplinary treatment of selected topics. Content varies. Writing-emphasis course. May be repeated.
405 Medieval Literature (3) (See English 401.)
406 Chaucer (3) (See English 402.)
410 Medieval French Literature (3) (See French 410.)
415 Medieval Architecture (3) (See Architecture 415.)
431 Medieval Art of the West, 800-1400 (3) (See Art History 431.)
441 Northern European Painting, 1350-1600 (3) (See Art History 441.)
451 The Art of Italy, 1250-1450 (3) (See Art History 451.)
475 Ancient and Medieval Political Thought (3) (See Political Science 475.)
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

MILITARY SCIENCE AND LEADERSHIP (689)
101 Foundations of Officership (2) Discusses organization and role of the Army. Emphasizes basic life skills pertaining to fitness and communication. Analyzes Army values and expected ethical behavior. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field-training exercises. Letter grade only.

102 Basic Leadership (2) Develops basic skills that underline effective problem solving. Examines factors that influence leader and group effectiveness. Emphasizes communication skills to include active-listening and feedback techniques. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field-training exercises. Letter grade only.

103 Army ROTC Fitness Program (1) Develops individual muscular strength, muscular endurance, and cardio-respiratory endurance. Classes are divided into groups based on ability and exercises are geared toward personal improvement. Primary evaluation is the Army Physical Fitness Test which consists of pushups, sit-ups and a two-mile run. May be repeated. Maximum 8 hours.

200 Leader’s Training Course (4) A 28-day leadership practicum at Fort Knox, Kentucky. Familiarizes students with Army physical fitness, land navigation, rifle marksmanship, and military problem-solving/decision-making.

201 Individual Leadership Studies (3) Develops knowledge of self, self-confidence, and individual leadership skills. Concentrates on problem-solving, decision-making and critical thinking skills. Emphasizes communication skills as feedback and conflict resolution. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field training exercises. Letter grade only.
202 Leadership and Teamwork (3) Focuses on self-development through understanding of self and group processes. Examines leadership through group projects and historical case studies. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field training exercises. Prereq: 201 or consent of the Professor of Military Science and Leadership. Letter grade only.

301 Leadership and Problem Solving (4) Examines the basic skills that underlie effective problem solving. Analyses the role of Army officers played in the transition of the Army from Vietnam to the 21st century. Instruction on analyzing and planning military operations. Emphasis on small unit tactics with a concentration on squad battle drills. Lab practicum concentrates on competency in land navigation, rifle marksmanship, and small unit operations. 3 hours and 1 hour lab. Prereq: United States citizen or pursuing citizenship; minimum of 55 credit hours passed and at least two years remaining to complete degree (undergraduate or graduate); physically qualified; cumulative GPA 2.00 or higher; legally qualified; 3 or 4 years of JROTC or completion of 101, 102, 201, 202 or completion of 200 or completion of basic training. Letter grade only.

302 Leadership and Ethics (4) Probes leader responsibilities that foster an ethical command climate. Applies principles of effective writing and oral communication. Builds on previous instruction to further develop leadership competencies. Lab practicum concentrates on preparation for Military Science and Leadership 400 National Advanced Leaders Camp. Emphasis on land navigation, rifle marksmanship, and small unit operations. Prereq: 301. Letter grade only.

303 Military History (3) Primary emphasis on 21st Century warfare. Examines critical thinking in the study of military history and the relevance of military history to the modern day professional soldier. Provides framework for lifetime study of military history. Prereq: ROTC Advance Course Student (101, 102, 201, 202) or consent of the department head of Military Science and Leadership. Letter grade only.

400 National Advanced Leadership Camp (4) A 31-day leadership practicum held at Fort Lewis, Washington. Students are evaluated in varied leadership positions, rifle marksmanship, land navigation, field leadership reaction course, and tactical small unit leadership. Prereq: 301, 302. Letter grade only.

401 Leadership and Management (4) Discusses Army staff organization, functions, and processes. Analyzes counseling responsibilities and methods. Examines principles of subordinate motivation and organizational change. Applies leadership and problem-solving principles to complex case studies and simulation. 3 hours and 1-hour lab. Prereq: 301 and 302, 400, or consent of instructor. Letter grade only.

402 Officerhood (4) A capstone course designed to explore topics relevant to second lieutenants entering the Army. Examines common platoon leader actions. Discusses leader responsibilities and actions that foster an ethical command climate. Familiarizes students with Army administrative and logistics management functions. Examines legal aspects of decision-making and leadership. 3 hours and 1-hour lab. Prereq: 301, 302, 400, 401 or consent of instructor. Letter grade only.

430 U.S. Military History, 1754 to the present (3) (See History 451.)

493 Military Leadership Topics (1) Topics on principles and styles of military leadership. Students conduct in-depth profile of a contemporary or historic military leader. Prereq: Consent of instructor. May be repeated. Maximum 4 hours. Letter grade only.

MUSIC EDUCATION (707)

200 Conducting Laboratory (1) A laboratory course designed to afford conducting opportunities for student conductors and to acquaint students with a variety of music literature. May be repeated. Can be taken as elective credit by any student except those registered for 310, 320. Letter grade only.

201 Field Experience in General Music (1) Observing and assisting in an approved elementary or middle school classroom. May be repeated. Maximum 3 hours. Satisfactory/No Credit grading only.

210 Class Woodwind Methods I (1) Structure, use, techniques of playing, care and repair of the clarinet in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

211 Class Woodwind Methods II (1) Structure, use, techniques of playing, care and repair of the flute and saxophone in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

212 Class Woodwind Methods III (1) Structure, use, techniques of playing, care and repair of the oboe and bassoon in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

220 Class Brass Methods (1) Structure, use, techniques of playing, care and repair of the upper brass instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

221 Class Brass Methods II (1) Structure, use, techniques of playing, care and repair of the lower brass instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

230 Class Percussion Methods I (1) Structure, use, techniques of playing, care and repair of principal instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

231 Class Percussion Methods II (1) Ethnic instruments, marching percussion trends and concepts, percussion literature and training concepts, traditional and non-traditional percussion accessories, steel drums. Letter grade only.

240 Class String Methods I (1) Structure, use, techniques of playing, care and repair of upper string instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

241 Class String Methods II (1) Structure, use, techniques of playing, care and repair of lower string instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. May be repeated. Letter grade only.

250 Functional Piano for Teachers (1) Practical piano skills for the general/vocal teacher who does not have a keyboard instrument as the applied principal. Transposition, improvisation, reading open vocal scores, simple accompaniments. May be repeated. Maximum 2 hours.

260 Eurhythmics (1) Principles and practice of eurhythmics, as developed by Emile Jaques-Dalcroze. Prereq: Consent of instructor. May be repeated. Maximum 2 hours. Letter grade only.

300 Music for Elementary Teachers (2) Singing, rhythmic activities, instrumental activities, listening, music reading, and creative activities appropriate for the elementary grades. For elementary education majors only. Prereq: Admission to Teacher Education Program. Letter grade only.

310 Conducting I (3) Basic skills of conducting; baton, time beating of traditional patterns, preparatory beat, cutoffs, cueing. Development of the left hand, fermata, subdividing. Mechanics of full score. Conducting live groups. Prereq: 2 years of music theory or consent of instructor. Letter grade only.

320 Conducting II (2) Developing advanced baton technique. Multiple rhythms, modern beat patterns and their variations. Studying, analyzing and interpretation of the full score. Achieving complete physical control. Rehearsal techniques. Conducting live groups in advanced works. Prereq: Conducting I or consent of instructor. Letter grade only.

330 Music Methods for the Elementary School (3) Methods and materials for teaching music in the elementary grades. Primarily intended for music education majors. Prereq: Consent of instructor and admission to Teacher Education Program. Letter grade only.

340 General/Vocal Music Methods (3) School methods and materials for teaching music in the elementary, middle, and high schools. Intended for the instrumental music education major. Letter grade only.

350 Field Experience in Music Education (1) Prereq: Consent of instructor and admission to Teacher Education Program. May be repeated. Maximum 3 hours. Satisfactory/No Credit grading only.
MUSIC ENSEMBLE (708)
Prerequisite: By audition or consent of instructor.

301 Woodwind Choir (1) May be repeated.
302 Jazz-Saxophone Ensemble (1) May be repeated. Maximum 4 hours.
303 Small Jazz Ensemble (1) May be repeated. Maximum 12 hours.
304 Jazz Ensemble (1) May be repeated.
305 Studio Orchestra (1) May be repeated. Maximum 12 hours.
306 Trombone Choir (1) May be repeated.
309 Tuba Ensemble (1) May be repeated.
310 Percussion Ensemble (1) May be repeated.
311 Marimba Choir (1) May be repeated.
315 Chamber Music Ensemble (1) May be repeated.
320 UT Singers (1) May be repeated.
330 Chamber Singers (1) May be repeated.
334 Saxophone Choir (1) May be repeated.
340 Opera Theatre (1) May be repeated.
350 Concert Band (1) May be repeated.
352 Symphonic Band (1) May be repeated.
353 Wind Ensemble (1) May be repeated.
354 Pep Band (1) May be repeated.
359 Marching Band (1) May be repeated.
370 Symphony Orchestra (1) May be repeated.
380 Concert Choir (1) May be repeated.
383 Men's Chorale (1) May be repeated.
389 Women's Chorale (1) May be repeated.
399 Accompanying (1) May be repeated.

MUSIC JAZZ (711)
110 Jazz Theory (2) Fundamentals of the jazz language, including terminology, chord symbols, chord/scales, and chord progressions, plus ear-training lab. Prereq: Music Theory 110.
120 Analysis of Jazz Styles (2) Individual improvisatory styles through analysis of their transcribed solos. Training and function of the ear in music. Transcription of solos from recordings and preparation of analysis. Prereq: 110.
130-140 Jazz Piano I, II (1,1) Harmonic language of jazz. Interpretation of chord symbols, formulae for voicing chords, chord progressions, and fundamental melody-playing and improvisation for right hand. Must be taken in sequence.
160 Introduction to Styles in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.
210-220 Jazz Improvisation I, II (2,2) Study and application of principles of improvisation, including nomenclature, chord progressions, chord-scales, patterns, melodic development, and tune styles. Prereq: 110.
310 Jazz Composition and Arranging (2) Prereq: Consent of instructor.

410 Advanced Improvisation (3) Development of individual skills and solving individual problems in jazz improvisation. Prereq: 210, 220.

420 Jazz Pedagogy (1) Methods and materials relating to teaching of jazz, design and administering jazz programs, and rehearsal techniques for jazz ensembles. Prereq: Studio Music and Jazz major or consent of instructor.

MUSIC KEYBOARD (712)
110-120 Class Piano I, II (1,1) Development of keyboard skills in reading, technique, repertoire, harmonization, and transposition. Must be taken in sequence. Intended for music majors and minors. Prereq: Successful completion of music audition and theory placement exam.

210-220 Class Piano III, IV (1,1) Continuation of 110-120; 220 completes piano competency requirement; must be taken in sequence.

230 Keyboard Harmony (1) Melody harmonization, figured bass realization, and improvisation. Prereq: Music Theory 110-120.

260 Early Keyboard Instruments (1) An introduction to the harpsichord, clavichord, and baroque organ. Emphasis on appropriate playing techniques. Brief survey of instrument types, repertoire, and performance practice issues. Prereq: Ability to perform keyboard literature at the 180, 185, or 190 level.

340-350 Piano Pedagogy I, II (3,3) Pedagogical methods and materials related to the development of principles of learning; collateral teaching experience. Must be taken in sequence.


410 Organ Practicum (1) Improvisation, hymn playing, and accompanying on the organ. Prereq: Organ proficiency at the 200 level. May be repeated. Maximum 3 hours.

420-430 Piano Literature I, II (3,3) 420—from 1750 to middle 19th century; 430—middle 19th century to present.

460-470 The Organ and its Literature I, II (3,3) Development of the organ and organ literature from the Middle Ages to the present; problems of style and interpretation; pedagogical literature and methods; organ design. Prereq/Coreq: Musicology 220, consent of instructor.

480 Teaching Class Piano (3) Historical survey and evaluation of teaching materials and methodology for college and/or adult beginning piano classes, with collateral teaching experience. Prereq: Consent of instructor.

485 Suzuki Piano Method I (2) Study of the psychology, procedures, and literature of the Suzuki piano method. Must be taken in sequence. Prereq: Consent of instructor.

490-491 Internship (2,2) Opportunity for pedagogy students to gain experience in teaching beginning students under the supervision of experienced instructors. Includes weekly discussion seminars.

495 Suzuki Piano Method II (2) Study of the psychology, procedures, and literature of the Suzuki Piano Method. Prereq: Consent of instructor.

MUSIC PERFORMANCE (713)
Prerequisite: By audition only; Music General 101 or equivalent.

103 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

104 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 103, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

105 Oboe (1-3) By audition only. Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

106 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 105, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

110 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

111 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 110, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

115 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

116 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 115, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

120 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

121 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 120, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

125 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

126 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 125, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

130 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

131 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 130, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

135 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

136 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 135, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

140 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

141 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 140, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

145 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

146 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 145, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

150 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

151 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 150, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

155 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

156 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 155 grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

160 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.
161 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 160, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

165 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

166 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 165, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

170 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

171 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 170, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

172 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

173 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 172, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

174 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

175 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 174, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

180 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

181 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 180, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

183 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

184 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 183, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

185 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

186 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 185, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

189 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

190 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 189, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

203 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 104, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

204 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 203, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

205 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 106, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

206 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 205, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

210 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 111, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

211 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 210, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

215 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 116, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

216 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 215, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

220 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 121, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

221 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 220, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

225 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 126, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

226 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 225, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

230 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 131, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

231 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 230, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

235 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 136, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

236 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 235, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

240 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 141, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

241 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 240, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

245 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 146, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.
246 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 245, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

250 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent. Music Performance 151, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

251 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 250, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

255 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 156, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

256 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 255, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

260 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 161, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

261 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 260, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

265 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 166, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

266 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 265, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

270 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 270, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

271 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 270, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

272 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 173, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

273 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 272, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

274 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 175, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

275 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 274, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

280 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 181, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

281 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 280, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

283 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 184, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

284 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 283, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

285 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 186, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

286 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 285, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

289 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 190, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

290 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 289, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated by non-BM students. Maximum 8 hours.

294 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Theory 210, 230 grade C or higher, or consent of instructor. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

295 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 294, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be taken once for 1-3 hours.

303 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 204, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

304 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 203, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

305 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 205, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

306 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 305, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

310 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 211, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

311 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 310, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

315 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 216, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

316 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 315, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

320 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 221, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.
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321 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 320, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

325 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 226, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

326 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 325, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

330 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 231, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

331 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 330, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

335 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 236, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

340 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 241, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

345 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 340, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

346 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 246, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

346 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 345, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

350 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 251, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

351 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 350, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

355 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 256, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

360 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 261, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

361 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 360, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

365 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 266, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

366 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 365, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

370 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 271, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

371 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 370, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

372 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 273, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

373 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 372, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

375 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 374, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

380 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 281, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

381 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 284, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

383 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 285, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

384 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 383, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

385 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 286, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

386 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 385, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

389 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 290, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

390 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 389, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

394 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 295, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.
395 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 394, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

396 Composition with Electronic Media (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Theory 210, 230, grade of C or higher, or consent of instructor. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

403 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 304, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

404 Flute (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 403, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

405 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 306, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

406 Oboe (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 405, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

410 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 311, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

411 Bassoon (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 410, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

415 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 316, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

416 Clarinet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 415, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

420 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 321, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

421 Saxophone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 420, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

425 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 326, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

426 Horn (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 425, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

430 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 331, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

431 Trumpet (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 430, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

435 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 336, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

436 Trombone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 435, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

440 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 341, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

441 Baritone (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 440, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

445 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 445, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

446 Tuba (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 445, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

450 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 351, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

451 Percussion (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 450, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

455 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 356, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

456 Voice (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 455, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

460 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 361, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

461 Violin (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 460, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

465 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 366, grade of C or better. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

466 Viola (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 465, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

470 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 471, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

471 Cello (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 470, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

472 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 373, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

473 Electric Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 472, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.
474 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 375, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

475 String Bass (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 474, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

480 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 381, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

481 Piano (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 480, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

483 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 384, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

484 Guitar (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 483, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

485 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 386, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

486 Harpsichord (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 485, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

489 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 390, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

490 Organ (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 489, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

494 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 395, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

495 Composition (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 494, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

496 Composition with Electronic Media (1-3) By audition only. Prereq: Music General 101 or equivalent; Music Performance 396, grade C or higher. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). May be repeated. Maximum 8 hours.

499 Improvisation (1-2) By audition only. Prereq: Music General 101 or equivalent and consent of instructor. Coreq: Ensemble appropriate to degree program (see School of Music Undergraduate Handbook). Cannot be used to satisfy applied music requirement. May be repeated. Maximum 4 times.

MUSIC TECHNOLOGY (717)

290 Sound Recording Techniques (3) Theory and applications of tape recording’s sound reproduction and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio and real-time processing, noise reduction, mixing, editing, monitors, system wiring, and maintenance. QR

340 Introduction to Computer Music Transcription (3) Exercise in notation, playback and publishing incorporating elements of word processing, graphic design, sequencing and page layout. Study of Music Instrument Digital Interface protocol as it applies to computer music work station design. Prereq: Consent of instructor.

390 Sound Synthesis Techniques (3) Studio and real-time applications of synthesizers. Historical background, theoretical concepts, equipment interface and usage, analysis of sounds and compositions. Prereq: 290 or consent of instructor.

MUSIC THEORY (714)

100 Fundamentals of Music (3) Theory and practice of basic elements of music. For non-music majors.

105 Introduction to Music Theory (3) Materials of music including scales and modes, key signatures, intervals, triads, diatonic analysis, and an introduction to part-writing. For music majors and minors.

110-120 Theory I, II (3,3) Materials of music from triads and diatonic analysis through secondary dominants and modulation. Exercises in part-writing, analysis, composition and improvisation of music with an emphasis on common practice. Must be taken in sequence. Prereq: 110—successful completion of music theory placement test or Music Theory 105, grade of C or higher. 120—Music Theory 110, grade of C or higher.

130 Ear Training I (1) Development of proficiency in identifying and notating melodic, harmonic and rhythmic models. Includes computer lab. Should be taken concurrently with 110. Prereq: successful completion of Music Theory Placement Test or Music Theory 105, grade of C or higher. A, B, C No Credit grading only.

140 Ear Training II (1) Development of proficiency in identifying and notating melodic, harmonic and rhythmic models. Includes computer lab. Should be taken concurrently with 120.

210-220 Theory III, IV (3,3) Materials of music including altered chords and analytical methods. Emphasis on literature of the Classic, Romantic, and Contemporary periods. Exercises in analysis, composition, and improvisation of music. Must be taken in sequence. Prereq: 210: 120, grade of C or higher, or consent of instructor. Prereq: 220: 210, grade of C or higher, or consent of instructor.


310 Form and Analysis (3) Study and practice in analysis of forms of music from smallest structural units to large compound forms. Prereq: 210, 240, grade of C or higher.

320 Instrumentation (2) Basic techniques in scoring for voice, brass, woodwind and string choirs and percussion. To be taken by jazz and music education majors. Prereq: 210, 230, grade of C or higher.

400 Survey of Music Theory (3) Emphasis on harmonic practice of Baroque, Classic, and Romantic periods. Exercises in writing and analysis. Recommended as a review course for graduate students. Prereq: Consent of instructor.

410 Ear Training Review (1) Review and application of harmonic and melodic dictation skills for graduate and advanced undergraduate students. Prereq: 240 or the equivalent. Required of entering graduate students with a deficiency in ear-training. Satisfactory/No Credit grading only.

420 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra. To be taken by theory and composition majors. Prereq: 210, 230, grade of C or higher.

430-440 Counterpoint I, II (3,3) 430—Species counterpoint in modal and tonal styles with emphasis on works of Palestrina and J.S. Bach. Prereq: 220. 440—Writing of contrapuntal forms of the 18th century and fugue analysis of works from the 16th through the 20th centuries. Prereq: 430: 210, 230, grade of C or higher. 440: 430, grade of C or higher.

450 Choral Arranging (2) Analysis of scores and writing of arrangements for choruses. Prereq: Music Theory 210 and 240, grade of C or higher, or consent of instructor.

493 Independent Study in Music Theory (1-15) Prereq: Consent of department head. May be repeated.

MUSIC VOICE (715)

110 Class Voice I (1) Development of basic vocal skills. May be repeated for credit. Maximum 2 hours.

230 Acting for Singers (1) Advanced work on song presentation and interpretation; scene study and characterization. Prereq: Consent of instructor. May be repeated. Maximum 4 hours.
240-250 Diction I, II (2,2) Sounds by phonetic symbols. Opera and art songs used for examples. Performance practice.

330 Opera Production (1-3) Supervised work on opera productions. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

410-420 Song Literature I, II (2,2) 410—German songs. 420—French, Italian, Russian, Scandinavian, Czechoslovakian, British, and American art songs. No graduate credit for students in the music concentration in vocal performance.

425 Functional Diction for Singers (3) Comprehensive one-semester survey of singing diction in six languages: English, French, German, Italian, Latin and Spanish. Basic instruction in the International Phonetic Alphabet; development of basic diction skills; overview of diction styles and traditions in each language; survey of diction resources and reference materials. Suitable for sacred music and music education majors with a concentration in voice and for graduate students in choral conducting. Does not fulfill deficiency requirements for graduate students in voice or accompanying.

450-460 Pedagogy I, II (2,1) 450—Concepts and approaches to teaching singing past and present for all ages of voices. 460—Vocal teaching materials: includes collateral teaching experiences. Prereq: Consent of instructor.

MUSICOCOLOGY (706)

110 Introduction to Music in Western Culture (3) The study of style periods of Western European art music and related issues of cultural and social history. Develops listening skills and ability to respond to music artfully. Writing-emphasis course. Students who receive a grade of C or better in Musicology 200 may not receive credit for Musicology 110. (AH)

115 Music in the United States (3) Explores musical traditions of the United States. Writing-emphasis course. For non-music majors. (AH)

120 History of Rock (3) Study and appreciation of rock music, its origins in blues and rock and roll, its development and cultural dimensions to the present. Writing-emphasis course. (AH)

125 Jazz in American Culture (3) The historical study of jazz as part of American culture, including its styles, key performers, and musical practices. Writing-emphasis course. For non-music majors. (AH)

200 Introduction to Music Literature (3) Basic forms of music and accepted masterworks through chronological approach. For music majors and minors only.

210 History of Music I (3) Historical study of musical styles, practices, theories, and contexts of Western European art music to 1750 through activities that include analytical listening, source readings and music score study. Develops skills in independent research, critical thinking, and expository writing. Writing-emphasis course. Prereq: 110 or 200, or consent of instructor. (AH)

220 History of Music II (3) Historical study of musical styles, practices, theories, and contexts of European art music from 1750 to present through activities that include analytical listening, source readings and music score study. Develops skills in independent research, critical thinking, and expository writing. Writing-emphasis course. Prereq: 210. (AH) (WC)

290 Introduction to World Musics (3) Survey of music of representative cultures from Africa, Asia, Oceania, and the Americas with a focus on music as sound and as part of the human condition. Also includes an emphasis on applying basic music terminology to developing listening skills. (AH)

310 Introduction to African-American Music (3) History of African music, blues, gospel music, and jazz with emphasis on Black artists and their contributions. (Same as African and African-American Studies 310.)

330 Women in Music (3) History of women in music from the Middle Ages to present as composers, performers, educators, and patrons. (Same as Women's Studies 330.) (WC)

340-341 Contemporary Trends in American Church Music I, II (2,2) Survey of sacred music in popular contemporary style, emphasizing analysis and evaluative criteria. Must be taken in sequence. 340 includes theory and keyboard harmony appropriate to the style. 341 includes composition and arranging within the style. Prereq: Music Theory 210-220.

350 History of Jazz (3) Origin, development, and styles of jazz music and its exponents. Cultivation of special listening techniques. Writing-emphasis course. Prereq: Consent of instructor.

380 Music in World Cultures (3) Examines music from an ethnomusicological perspective focusing on musical performance and the interrelationships of music, culture, and daily life. The course surveys music from a variety of cultures through a series of case studies. Prereq: 210-220, or permission of instructor. (WC)

400 Music History Survey (3) History of music with emphasis on genres, style changes, and cultural forces. Western European tradition from 400 to 1900. Recommended as a review course for graduate students. Prereq: Consent of instructor.

410 Music History Genre (3) Topics vary. May be repeated for credit. Maximum 6 hours.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of Italian, French, and German schools. 1600-present.

430 Symphonic Literature (3) Survey of literature for orchestra from Baroque to the present, with emphasis on the evolution of the symphony. (WC)

450 Composer Seminar (3) Life and works of a single composer. Subjects vary.

460 Music Aesthetics (3) Nature of music and musical experience, sense perception and emotions, music, and role of artist in society. Aesthetic viewpoint of individuals and historical eras through selected writings. Writing-emphasis course.

480 Music in Christian Worship (3) Hymnody, liturgies, and liturgical music.

493 Independent Study (1-15) Prereq: Consent of department head. May be repeated. Maximum 15 hours.

NUCLEAR ENGINEERING (716)

200 Introduction to Nuclear and Radiological Engineering (1) Topics related to nuclear and radiological engineering. Satisfactory/No Credit grading only.


301 Fundamentals of Nuclear and Radiological Engineering (3) Nuclear systems, radiation interactions and decay, health physics, cross sections, basic nuclear reactor theory concepts, introduction to FORTRAN programming. Prereq: Physics 232, Mathematics 231.

304 Nuclear and Radiological Engineering Laboratory I (3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, heat transfer experiments. Prereq: 342. Coreq: 470. (WC)

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid machinery; heat transfer processes, heat conduction, thermal radiation, free and forced convection. Prereq: 203 or Mechanical Engineering 331.


360 Reactor Systems and Safety (3) Safety and operating limits of nuclear steam supply system components; NRC regulations; accident analysis and mitigation. Prereq: 342.

400 Senior Seminar (1) Current topics related to nuclear and radiological engineering including ethics, contemporary issues, and commitment to life-long learning. Prereq: Senior standing. Satisfactory/No Credit grading only. (OC)

403 Nuclear and Radiological Engineering Laboratory II (3) Cross section measurements, diffusion properties of neutrons, shielding, dynamics and controls, alpha and beta spectroscopy, radiation fields and dosimetry. Prereq: 304. (WC)

404 Nuclear Fuel Cycle (3) Topics relative to nuclear fuel cycle including, mining, milling, fabrication, in-core management, reprocessing, waste disposal, regulatory and radiation health issues and requirements. Prereq: 470 or equivalent.

406 Radiation Shielding (3) Types of radiation sources, fundamentals of gamma ray and neutron attenuation, biological effects, approximate methods of shield design, discrete ordinates, and Monte Carlo. Prereq: Physics 232.
421 Introduction to Nuclear Criticality Safety (3) Fundamentals of nuclear criticality safety; criticality accidents; safety standards; overview of experiments, computational methods, and applications. Prereq: 301.

431 Radiation Protection (3) External and internal dosimetry, biological effects of radiation, radiation detection, radiation risk assessment. Prereq: 301.

470 Nuclear Reactor Theory I (3) Fundamentals of reactor physics relative to cross sections, kinematics of elastic scattering, reactor kinetics, reactor systems and nuclear data. Analytical and numerical methods applicable to general criticality problems, eigenvalue searches, perturbation theory, and the multigroup diffusion equations. Prereq: 301.

472 Nuclear System Design (4) First order design and analysis of a nuclear system, interface with nonnuclear aspects of system design including system reliability and economics, class project. Prereq: 470.

483 Introduction to Reliability Engineering (3) Probabilistic failure models, parameter estimation (maximum likelihood, Bayes techniques), model identification and comparison, accelerated life tests, failure prediction, system reliability, preventive maintenance and warranties. Prereq: Senior standing or consent of instructor. (Same as Chemical Engineering 483; Industrial Engineering 483; Mechanical Engineering 483.)

484 Introduction to Maintainability Engineering (3) Principles of maintenance and reliability engineering, and maintenance management. Topics include information extraction from machinery measurements, rotating machinery diagnostics, nondestructive testing, life prediction, failure models, lubrication oil analysis, establishing a predictive maintenance program, and computerized maintenance management systems. Prereq: Senior standing in engineering and consent of instructor. (Same as Chemical Engineering 484; Industrial Engineering 484; Materials Science and Engineering 484; Mechanical Engineering 484.)

494 Special Topics in Nuclear Engineering (3) Problems related to recent developments and practice. Prereq: Senior standing, consent of instructor. May be repeated.

495 Special Topics in Radiological Engineering (3) Problems related to recent developments and practice. Prereq: Senior standing on consent of instructor. May be repeated.

498 Research (1-3) Research related to recent developments in nuclear and radiological engineering. Prereq: Consent of department head. Satisfactory/No Credit grading only. May be repeated. Maximum 3 hours.

NUCLEAR MEDICINE TECHNOLOGY (718)

Courses open only to qualified students who have completed the first three years of the Nuclear Medical Technology Curriculum, as described in the College of Arts and Sciences curricula section of this catalog, and who have been admitted to the Nuclear Medical Technology Program at UTMCK.

410 Physics for Nuclear Medicine I (3) Nuclear physics, mathematics, and statistics. Survey of historic and current concepts in atomic and nuclear structure, interrelationships between matter and energy, nuclear reactions, nuclear stability, production of radionuclides, radionuclide generators, decay schemes, and charts used in nucleide identification and behavior prediction. Mathematics and statistics topics include basic arithmetic theories, mathematical manipulations, and application of mathematical techniques for use in radio active decay equations, dose calculations and concentration, volume and shielding determinations. Graphing, counting statistics and other physical and chemical applications of mathematics to nuclear medicine are included. May not be substituted for Physics 471 or 472.

411 Nuclear Instrumentation (3) Course concerns non-imaging, imaging, and instrument quality assurance. Non-imaging topics include basic radiation detectors, their applications, functions, and limitations with overview of basic electronics, gas-filled detectors, statistics and counting, solid and liquid scintillation detection systems, semiconductor and instrument stabilization, and quality control. Imaging topics are instrumentation of imaging devices, including basic function, application of principles and quality control. Quality assurance unit emphasizes function and maintenance requirements of nuclear instrumentation, radiation safety practices, and statistical analysis of quality control data.

412 Radiopharmacy (2) Emphasis on basic chemistry and radiochemistry in nuclear radiopharmacy. Topics include radiopharmaceutical preparation and quality assurance, radionuclide production, and basic photographic film chemistry. Kinetics, biodistribution, and mechanisms of localization are also included, plus guidelines and regulations governing radiopharmacy management and operation.

415 Physics for Nuclear Medicine II (3) Continuation of 410 with focus on radiobiology and radiation safety. Radiobiology topics include interactions of radiation and matter, cellular and systemic responses to radiation, early and late-teratogenic and genetic effects, biological effects of low level radiation, critical organ and dose calculations, and benefit versus risk factor. Radiation safety topics include exposure terminology, dose limit recommendations, ALARA philosophy, federal and state regulations, radiation monitoring equipment, and methods and techniques for safe practice of nuclear medicine.

420-430-440 Clinical Nuclear Medicine I, II, III (4,4,4) Theories and applications of nuclear medicine methodologies. I—Patient care, central nervous system, endocrine system, respiratory system and digestive system; II—Cardiac and hepatobiliary system, genitourinary system, musculoskeletal system, non organ/tumor/inflammatory imaging, cardiovascular imaging, non-imaging nuclear medicine; III—single photon emission tomography, positron emission tomography, clinical quality assurance, pediatric nuclear medicine, radionuclide therapy, and management and administration of nuclear medicine programs.

425 Computer Applications in Nuclear Medicine (3) Computer systems, applications, and components in quantitation in nuclear medicine. Topics include acquisition modes and limitations, image processing modes and limitations, and image quantitation with some attention to machine and language architecture and numbering systems.

450-460-470 Clinical Practicum I, II, III (4,4,6) Clinical instruction in routine nuclear medicine procedures conducted at UTMCK and other clinical sites. Clinical instruction activities in imaging, instrumentation, radiotherapy, dose administration, radiation safety and protection, non-imaging procedures, patient care and preparation, computer applications, radionuclide therapy, and basic administrative and management procedures.

475 Nuclear Medicine Registry Review (2) Preparation for National Registry Examination with special emphasis on film interpretation and reporting in technical critique sessions.

NURSING (720)

All upper-division nursing courses except 314, 351, 400, 402, 406, and 480 are restricted to students who have progressed into the major.

201 Introduction to Nursing (2) History, philosophy, and scope of nursing practice with emphasis on the holism of persons, standards for professional practice, and an overview of the nursing process and nursing theories. Prereq: Application for progression to nursing major.

202 Health and Culture (3) An exploration of the beliefs and practices of various cultural groups within the United States in relation to health, illness and the health care delivery system. Implications for the helping professions are examined. This course has no prerequisites and is open to all University of Tennessee undergraduate students.

305 Transitions to Professional Nursing (4) Builds on the knowledge base and experience of RNs in transition to professional nursing. Focuses on the conceptual foundations of nursing practice and issues in health care delivery. 3 lecture and 1 lab. For RNs only.

311 Foundations of Professional Nursing Practice (5) Emphasis on patient centered communication, therapeutic interventions, and critical thinking as key elements in the use of the nursing process. Clinical laboratory experiences provide opportunity for the application of these processes in the care of adults in selected health care settings. 2 lecture and 3 lab. Prereq: 201. Coreq: 319, 333, 341.

314 Wellness and Lifestyle (3) Models of wellness and holistic health within the framework of modern medicine, eastern philosophy, and recent discoveries about the interaction of mind and body. Biopsychosocial interactions of lifestyle and genetic risk factors for cardiovascular and malignant diseases, wellness potential, and potential longevity. Process of lifestyle changes will be facilitated by faculty. Open to undergraduate students in all colleges.

319 Pathophysiology of Health Deviations (4) Application of physiological concepts to health promotion, maintenance, deviations, and restoration. Introduction to psychoneuromunology. Emphasis on interactions of body systems, and impact of disease processes on the human body.

333 Health Assessment (3) Theory and laboratory practice in the systematic assessment of health status including history taking and performance of physical assessment skills. For RNs, this course is prerequisite to any clinical course beyond 305 Transitions. 2 lecture and 1 lab.
341 Transcultural Nursing (2) Focus on cultural perspectives in health and illness. Discussion of diversity in and influence of culture on health promotion, maintenance, and restoration across the lifespan and in selected nursing specialties, ethnic populations, and religious denominations.

351 Pharmacology I (2) Biochemical and pharmacological effects of therapeutic drugs on the human body. Basic concepts of drug action and interactions. Major drug classifications. Prereq: Chemistry 100-110, and at least 6 semester hours of Anatomy and Physiology.

361 Health Maintenance and Restoration: Adult (5) Focus on health maintenance and restoration of adults experiencing commonly occurring acute or chronic illness. Presentation of illnesses and critical indicators of underlying conditions will be identified for the younger adult as compared to the older adult. 3 lecture and 2 lab. Prereq: 311, 319, 333.

381 Professional Development in Nursing (2) Emphasis on development of personal attributes necessary for professional practice such as: emotional intelligence, caring, critical thinking, decision making, problem solving, motivation and management of time, stress, and anger. The course content also includes theories and principles of interpersonal capacities and strategies used in any health care setting such as communication, delegation, and management of teams, conflicts, and changes. Prereq: 311, 341.

382 Health Promotion and Maintenance in the Community (5) Focus on nursing care of at-risk populations in the community and national health promotion objectives. Analysis of community health needs. Design and implementation of nursing interventions to promote and maintain health. 3 lecture and 2 lab. Prereq: 311, 319, 333. Coreq: 351, 361.

400 Aging and Society (3) An examination of the health and social effects of longevity and the aging process including societal and personal attitudes about old age. Resources, trends, issues, and potentials of aging are explored. Volunteer community service, a service learning component, is required. Open to undergraduate students in all colleges.

402 Gerontology Practicum (3) Off-campus supervised experience in gerontology. Offered as part of the gerontology minor. Open to students in all colleges. Prereq: Consent of instructor.

403 Health Promotion and Maintenance in Childbearing Families (5) Nursing practice for promotion, maintenance, and restoration of reproductive health. Emphasis on therapeutic relationships with childbearing families for long-term positive impact on health care and lifestyle. 3 lecture, 2 lab. Prereq: All required 300-level courses or RN status. (WC)

404 Health Promotion, Maintenance, and Restoration in Children, Adolescents, and Their Families (5) A family-centered approach to the nursing care of children and adolescents. The nursing process is used as the basis for promoting, maintaining, and restoring health and facilitating adaptation in the child-bearing family. Clinical experiences in selected agencies provide experience with children and adolescents in both community and acute care facilities. 2 lecture and 3 lab.

406 Pharmacology II (2) Continuation of 351 with emphasis on nursing responsibilities in the safe and effective use of therapeutic drugs, recognition and reporting of side effects, and critical aspects of patient education. Prereq: 351.

409 Genetic Disorders, Vulnerable Families, and Health Advocacy (3) Examination of health and social implications of Human Genome Project, with emphasis on genetic disorders that result in chronic illness or disability. Strategies for building collaborative partnerships to effect health advocacy for vulnerable populations. Prereq: Upper-division status.

415 Family/Community Health Nursing (6) Application of the nursing process to individuals, families, groups in the childbearing/rearing family. Clinical experiences in selected agencies provide experience with children and adolescents in both community and acute care facilities. 3 lecture, 3 lab. Prereq: All 300-level nursing courses. For non-nurse MSN students only.

421 Mental Health Maintenance and Restoration (5) Nursing to support and care for persons with mental health needs. Emphasis on use of self as therapeutic agent with individuals, groups and families and developing nursing strategies for mental health maintenance and restoration. 3 lecture and 2 lab. Prereq: all required 300-level nursing courses or RN status.

432 Health Promotion, Maintenance, Restoration in the Community (3) Focus on nursing care of at risk individuals, communities, and populations. Assessment of sociocultural values, environmental factors, health education, and community resources. Design of interventions to promote, maintain, and restore health through the use of the epidemiological process.

442 Directed Clinical Practice in Community Health Nursing (1) Clinical practice in a community health setting. Prereq/Coreq: 432. For RN master’s entry students only.

451 Interpersonal Management Skills in Nursing (2) Focus on concepts and strategies for leadership as a professional nurse. Application of common workplace issues that affect nursing practice. Prereq: 381, senior.

452 Professional and Workplace Issues (1) Focus on nursing ethics and moral development, using scenarios from everyday practice. Prereq: 451.

454 Professional Leadership Issues (2) For Registered Nurses (RN) and Masters-Equivalent Students (MLES). Survey of issues and trends that influence the practice of professional nursing. Focus on concepts and strategies for leadership as a professional nurse. Emphasis on personal development and interpersonal skills. (OC)


470 Special Topics (1-3) In-depth study of selected nursing topics, problems, or issues not covered in other courses. Topics determined by faculty and student interest. Prereq: Consent of instructor.

471 Nursing Research (3) Introduction to research, design, and methodologies. Critique of selected research studies for application to evidenced-based nursing practice. Prereq: All required 300-level courses, or consent of instructor, or RN status.

480 Nursing Informatics (1) Provides opportunity for nursing students and/or registered nurses to develop beginning knowledge and skills in computer applications and the field of nursing informatics. Existing and future health information systems will be examined. Emphasis is placed on hands-on acquisition of basic computer competencies. Use of electronic communication, word processing, spreadsheet, database, presentation and computer-assisted-instruction programs. Students will also be exposed to nursing documentation, flowcharting, and authoring software. 2 lecture and 1 lab. Prereq: Upper-division or RN status or consent of instructor.

490 Specialty Preceptorship (4) In-depth practicum to develop knowledge and skill in a selected specialty area under direct guidance of clinical preceptor. Knowledge development in specialty area under guidance of faculty. 1 lecture and 3 lab. Prereq: 406, 451. Coreq: Graduation term.

491 International Studies (1-3) Participation in selected health and nursing care in foreign countries. Requires consent of instructor.

493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Senior standing or consent of instructor.

NUTRITION (726)

100 Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. A student who has received credit for Nutrition 300 may not receive credit for this course. (NS)

104 Sports Nutrition for Athletes (1) Nutritional concepts focusing on the optimal training diet; balancing energy with activity; positive fueling before, during, and after sports events; sorting out nutritional supplements.

201 Careers in Nutrition (1) Overview of nutrition-related careers. Routes to meeting academic, registration, and experience requirements.

300 Fundamentals of Nutrition (3) Nutrition in normal and altered health states during life cycle; nutritional analysis of diets. Prereq: Chemistry 110 or 130. Prereq/Coreq: Biochemistry and Cellular and Molecular Biology 230. A student who has received credit for 100 may not receive credit for this course.

302 Life Span Nutrition (3) Physiological development and psychosocial factors that influence nutrient needs and nutrition behaviors of individuals across the life span. Nutrition education strategies for various age groups. Prereq: 100 or 300, Biochemistry and Cellular and Molecular Biology 230.

303 Foodservice Systems Management (3) Assessment of managerial, organizational and operational structures in foodservice systems with focus on markets related to dietetic practice; human resource policies and strategies applied to foodservice systems management.

310 Physiological Chemistry (4) (See Biochemistry and Cellular and Molecular Biology 310.)

313 Vitamins and Minerals (3) Functional properties and interrelationships among vitamins and minerals as they apply to human nutrition. Prereq: 310; Chemistry 350.

314 Energy Metabolism and Metabolic Integration (3) Integration of carbohydrate, fat, and protein metabolism as applied to nutrient utilization and requirements in humans. Prereq: 310; Chemistry 350.
410 Professional Issues in Dietetics (1) Dietetic registration, licensure; third party payments; dietetic practice; marketing dietetics; internship application preparation; public policy in dietetic practice. Prereq: Senior standing.

412 Food and Nutrition in the Community (3) Influence of health characteristics, geographic, social, economic, educational and cultural factors on food and nutrition programming; relationship of community food and nutrition problems to programs and services for families and communities with particular attention to disease prevention; public policy. Prereq: 302, 415. (WC)


420 Food and Nutritional Analysis (4) Principles, procedures, and instrumentation for analysis of food and body fluids. Interpretation of chemical, dietary, and anthropometric data analysis in nutrition research. Prereq: 100 or 300, 310.

450 Special Topics: Nutrition (1-3) Developments, issues and problems in Nutrition; topics variable. Prereq: Junior or Senior standing in Nutrition or consent of instructor. May be repeated. Maximum 3 hours.

490 Introduction to the Dietetic Internship (3) Applications of clinical, food service, and management theories to dietetic practice. Restricted to Dietetic Internship students.

492 Field Experience: Nutrition (1-3) Prereq: Junior or Senior standing, consent of instructor. Satisfactory/No Credit grading only.

493 Directed Study: Nutrition (1-3) Individual student: faculty experience. Letter grade only.

OPERATIONS AND MANAGEMENT SCIENCE (738)


410 Management Science (3) Introduction to quantitative decision models and their integration into microcomputer-based decision support systems. Topics include linear, dynamic and network programming, as well as decision analysis, Markov, inventory and queuing models. Prereq: Mathematics 123 and Statistics 201.

421 Total Quality Management (3) Successful quality improvements characterized by four main principles: customer focus, continuous improvement, leadership, and teamwork. This course focuses on the managerial perspective that is necessary to successfully implement and integrate quality improvements initiatives. The quality improvement tools are also presented. Prereq: Business Administration 341.

441 Operations Management II (3) Planning and control of operations systems. Aggregate planning, scheduling systems, materials management. Prereq: 341.

PERSIAN (744)

161-162 Elementary Persian I, II (4,4) (See Asian Studies 161-162.)

261-262 Intermediate Persian I, II (4,4) (See Asian Studies 261-262.) (CC)

PHILOSOPHY (745)

110 The Human Condition: Values and Reality (3) The meaning of life, the existence of God, freedom of the will, human nature and values. Writing-emphasis course. (AH)

111 The Human Condition: Knowledge and Reality (3) The place of mind in a material universe and the nature and possibilities of human knowledge. May be taken before 110. Writing-emphasis course. (AH)

117 Honors: Introduction to Philosophy I (3) Honors version of Philosophy 110. Permission of the department is required. The course need not be taken before 118. (AH)

118 Honors: Introduction to Philosophy II (3) Honors version of Philosophy 111. Permission of the department is required. The course may be taken before 117. (AH)

130 Critical Thinking (3) An introduction to practical reasoning in natural language, designed to enhance skills in recognizing, analyzing, evaluating and constructing arguments.

135 Formal Logic (3) Introduction to formal deductive systems: propositional and predicate logic.

200 Special Topics (3) When content varies, may be repeated. Maximum 6 hours.

241 Engineering Ethics (3) Ethical issues in engineering at the intersection of science, business, and society. Such topics as international concerns; risk, safety, and the environment; employee loyalties and professional responsibility; professional organizations and codes of conduct. Writing-emphasis course. (AH) (WC)

242 Contemporary Moral Issues (3) Issues such as euthanasia, capital punishment, reproductive technologies, sexual ethics, diversity, war, world poverty, employment practices, and the environment, in light of philosophical analysis and ethical theory. Writing-emphasis course. (AH)

243 Business Ethics (3) The proper roles of ethics in business in general and such specific issues as the meaning and value of work; employee rights and responsibilities; marketing; finance; the environment; information technology; diversity and discrimination; international business; economic globalization; ethical business cultures. Readings will include philosophical essays and contemporary case studies. Writing-emphasis course. (AH) (WC)

244 Professional Responsibility (3) Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with responsibility and the nature of professionalism. Theoretical principles and analytical skills applied to selected case studies and other detailed descriptions of professional practice from engineering/architecture, business/accounting; and at least one of: law/politics; helping professions (social work, human services, ministry); teaching. Writing-emphasis course. (Same as Legal Studies 244; Religious Studies 244.) (AH) (OC)

245 Environmental Ethics (3) Issues concerning the nature of the environment and the place of humanity within it. Writing-emphasis course. (AH)

246 Bioethics (3) Ethical issues in health care such as abortion, euthanasia, human experimentation, fairness in health care delivery, and the doctor-patient relationship. Writing-emphasis course. (Same as Religious Studies 246.) (AH) (WC)

290 Social and Political Philosophy (3) Issues such as the obligation to obey the law, liberty, oppression, equality, rights, democracy, and the just society. Writing-emphasis course. (AH) (WC)

300 Special Topics (3) May be repeated. Maximum 6 hours.

320 Ancient Western Philosophy (3) Writing-emphasis course. (WC)

322 Medieval Philosophy (3) Development of medieval thought from St. Augustine to William of Occam. Secondary and primary sources. Writing-emphasis course. (Same as Judaic Studies 322; Medieval Studies 322.) (WC)

324 17th- and 18th-Century Philosophy (3) Writing-emphasis course. (WC)

326 19th- and 20th-Century Philosophy (3) Writing-emphasis course. (WC)

340 Ethics (3) Theories of ethical values. Writing-emphasis course. (WC)

350 Aesthetics (3) Philosophical discussion of art. Writing-emphasis course.

353 Philosophy and Literature (3) Nature of literature; philosophical assumptions in literary works. Writing-emphasis course.

360 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specific issues vary, but may include: the nature of causality; the relationship between experiments, theories, and scientific practice; how theories change and how scientific disputes get settled; the role played by social organization in science (e.g., gender and race issues); and others. Writing-emphasis course.

370 Philosophy of Religion (3) Analysis of basic issues in the philosophy of religion. (Same as Religious Studies 370.)

374 Philosophy and Religion of India (3) (See Religious Studies 374.)

376 Buddhist Philosophy and Religion (3) (See Religious Studies 376.)

379 Religion and Philosophy in China (3) (See Religious Studies 379.)

382 Philosophy of Feminism (3) Various feminist theories and their application to social issues of concern to women today. Writing- emphasis course. (Same as Women's Studies 382.) (WC)

390 Philosophical Foundations of Democracy (3) Philosophical problems relating to the nature and justification of the central values, principles, and concepts of democratic society. Writing-emphasis course. (WC)
392 Philosophy of Law (3) A course in analytic and normative jurisprudence. Such topics as the nature of legal systems as normative social practices, the relationships between law and morality, theories of adjudication and legal reasoning, the justification of punishment, theories of legal responsibility, law and economics, and feminist and neo-Marxist critiques of law. Writing-emphasis course. (Same as Legal Studies 392.)

393 Global Justice and Human Rights (3) Such issues as justice between distinct and diverse political communities; universal human rights; moral issues in environment, trade, and development. Writing-emphasis course. (Same as Global Studies 393; Legal Studies 393.)

395 Existentialism (3) Themes related to freedom and finitude in the tradition that begins with Kierkegaard and Nietzsche, and extends to Heidegger and Jaspers, Sartre and Merleau-Ponty.

400 Special Topics (3) When content varies, may be repeated. Maximum 6 hours.

411 Modern Religious Philosophies (3) (See Religious Studies 411.)

419 Science as Method (3) (See Ecology and Evolutionary Biology 419.)

420 Topics in History of Philosophy (3) One or more figures or movements from antiquity through mid-twentieth century. Prereq: 6 hours of philosophy or consent of instructor. When content varies, may be repeated. Maximum 9 hours.

435 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic. Prereq: 135 or consent of instructor.

440 Contemporary Ethical Theory (3) Topics in meta-ethics or ethics. Prereq: 6 hours of philosophy or consent of instructor.

443 Advanced Business Ethics (3) Advanced topics in business ethics. When content varies, may be repeated. Maximum 6 hours.

445 Advanced Environmental Ethics (3) Advanced topics in environmental ethics. When content varies, may be repeated. Maximum 6 hours.

446 Advanced Bioethics (3) Advanced topics in bioethics. When content varies, may be repeated. Maximum 6 hours.

462 Philosophy of Biology (3) An introduction to current issues in the Philosophy of Biology. Specific problems vary, but will likely include: the nature of natural selection, adaptation, and fitness; the level of selection debate; the nature of species; the interaction of environment and organism, and others. Prereq: upper-division coursework in philosophy or biology or permission of instructor.

472 Philosophy of Language (3) Problems of meaning, reference and truth. What is the relation between words and the world? How do sentences manage to be about the world? What is it for something to be true? Prereq: 3 philosophy courses 200-level or above.

473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal identity. Prereq: 6 hours of philosophy or consent of instructor.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

**PHYSICAL EDUCATION (764)**

200 Special Topics (1-2) Selected topics in various activities not covered in the regular program. When content varies, may be repeated. Maximum 6 hours.

202 Badminton (1) Fundamental badminton technique, game strategy, and rules for singles and doubles play.

206 Bowling (1) Introduction to ball selection, approach, spot bowling, rules, scoring, etiquette, and basic terminology necessary for enjoyable recreational bowling.

211 Golf (1) Introduction to chipping, putting, full swing, rules, etiquette, and scoring necessary for enjoyable recreational play.

213 Ice Skating (1) Beginning skills and etiquette in ice skating. Satisfactory/No Credit grading only.

216 Martial Arts (Special Topics) (2) Special Topics. Selected topics in various forms of martial arts, including but not limited to jujitsu, judo, karate, and tai chi. When content varies, may be repeated. Maximum 6 hours.

224 Physical Fitness: Conditioning (1) Program of flexibility, strength, and cardiovascular endurance through exposure to various exercise forms.

225 Physical Fitness: Exercise to Music (1) Total body workout to music with lecture emphasis on basic fitness components of flexibility, strength, and cardiovascular fitness.

226 Exercise and Weight Control (1) Fitness activities and basic fundamentals of nutrition for students interested in losing weight: includes body composition assessment and instruction on achieving a goal weight.

229 Physical Fitness: Jogging (1) General factors on physical fitness with emphasis on the improvement of cardiovascular fitness through jogging.

230 Physical Fitness: Swimming (1) Introductory course outlining basic principles of fitness, evaluation, and workout design in the aquatic environment.

231 Physical Fitness: Walking (1) Course for those wishing to begin a fitness program: includes measurement and interpretation of fitness components, including body composition, cardiorespiratory fitness, low back function and nutrition.

232 Racquetball I (1) Pass, kill, ceiling shots, and basic serves. Singles and doubles strategy, necessary for recreational play.

234 Soccer (1) Introduction to individual and team fundamentals, rules, and strategy.

235 Social Dance (2) Popular ballroom dance forms such as the swing (shag), foxtrot, cha cha, tango and rumba.

236 Softball (1) Introduction to individual and team fundamentals, rules and strategy.

237 Stress Management (2) Class will deal with the stress process and its relationship to health and disease, lifestyle, and the socio-cultural environment. The psychological, sociological, and spiritual aspects of stress will also be discussed, as well as the concept of the integrative (i.e., mind-body-spirit) person. Finally, a portion of each class period will be devoted to the learning, practice, and implementation of a personal, broad-based coping strategy for stress management.

239 Beginning Swimming (1) Includes skills in the American Red Cross basic swimming course for the non-swimmer.

240 Intermediate Swimming (1) Crawl stroke, elementary back stroke, side stroke, back crawl, breast stroke, entries and turns.

244 Tennis I (2) Introduction to forehand, backhand, serve, volley, rules, scoring and simple strategy.

245 Tennis II (1) Development of accuracy and improved technique of ground strokes and serve; introduction to smash, spin serve, and advanced strategy.

251 Volleyball (1) Introduction to individual and team fundamentals, rules, and strategy.

252 Weight Training (1) Introduction to the principles of strength development for large muscle groups through the use of free weights and machines.

254 Yoga and Relaxation (1) Introduction to yoga and various forms of relaxation, with the majority of class time spent learning and refining the postures. Satisfactory/No Credit grading only.

255 Water Safety Instructor (2) Prepares individuals to teach American Red Cross basic swimming and personal safety courses. ARC certification.

256 Lifeguarding Training (2) American Red Cross lifeguarding and aquatic management techniques. ARC certification. Prereq: Swim test second day of class.

259 Snow Sking (1) Development of skills necessary to balance, walk and slide while on skis. Learn ski etiquette and Skier’s Responsibility Code. Satisfactory/No Credit grading only.

261 Scuba Diving (2) Introduction and developmental SCUBA diving skills as well as the theory, safety skills and practical application of skills to open water SCUBA diving.

262 Snowboarding (1) Develop skills necessary for proper balance and control in snowboarding. Learn and demonstrate rules and regulations of snow etiquette through group participation. Learn the snowboarding responsibility code. Satisfactory/No Credit grading only.
PHYSICS (773)

101-102 How Things Work (3,3) For students with majors outside science. Examines familiar objects of everyday experience and leads to an understanding of the physical principles that makes them work. (NS)

135-136 Introduction to Physics for Physical Science and Mathematics Majors (4,4) A one year course in Calculus based physics. Satisfies prerequisite for 200-level and beyond. Alternative to honors physics 137-138 for physics majors. 3 hours lecture and 2 hours lab. Coreq: Mathematics 141-142. (NS)

137-138 Honors: Fundamentals of Physics for Physics Majors (5,5) For physics and engineering physics majors and qualified students from other majors. Coreq: Mathematics 141-142. (NS)

161 Elements of Physics for Architects and Interior Design Students (3) Chosen topics in physics for architecture and interior design students. Course emphasizes material development by logic and lecture demonstrations. Prereq: Intermediate Algebra and one year of geometry. (NS)

221-222 Elements of Physics (4,4) Basic physical principles and applications required in premedical, pre-dental, pre-pharmacy and pre-veterinary programs. 221 — Mechanics, heat, wave motion, and optics. 222 — Electricity and magnetism, modern physics. Must be taken in sequence. 3 hours lecture and 3 hours lab. Prereq: Mathematics 130 or Calculus. (NS)

231 Fundamentals of Physics: Electricity and Magnetism (3) For engineers and Arts and Sciences majors in mathematics and the physical sciences. Required of all engineering students. 2 hours lecture and 3 hours lab/recitation. Prereq: Engineering Fundamentals 102; Coreq: Mathematics 142. (NS)

232 Fundamentals of Physics: Wave Motion, Optics, and Modern Physics (4) Continuation of 231. Required of all engineering students. 3 hours lecture and 3 hours lab/recitation. 3 hours lecture and 3 hours lab/recitation. Prereq: 231. Coreq: Mathematics 241. (NS)

240 Fundamentals of Physics: Modern Physics (3) Special relativity, fundamental concepts of modern physics and their applications to atomic, nuclear, particle and condensed matter physics. Prereq: 136 or 138 or consent of instructor.


321 Thermal Physics (3) Concepts of temperature and heat; laws of thermodynamics; elementary statistical mechanics; applications to physical and chemical problems. Prereq: 311, or 136, or 138, or 231.

341 Introduction to Nuclear Physics (3) Introductory theoretical nuclear physics with emphasis on applied aspects. Primarily for Nuclear Engineering majors. Prereq: 240 or 232.

342 Structure of Matter (3) Physics of molecules and condensed matter. Prereq: 240 or 232

361-362 Electronics Laboratory (3,3) Electronic devices and instrumentation topics in the physics laboratory. 361 — Basic analog and digital electronics, including elementary building blocks of relevance to data acquisition systems, operation amplifiers, digital-to-analog and analog-to-digital conversion, use of standard laboratory instruments, and applications of microcomputers. 362 — Advanced instrumentation techniques applied to the study of electronic circuits as dynamic physical systems, feedback and stability, noise, discrete sampling, Fourier analysis and synthesis, nonlinear circuit dynamics. 6 hours lab per week. Prereq: 136 or 138 or 232.

401 A Survey of Physics (3) A survey of physics from earliest times to the present, emphasizing the unifying philosophical and mathematical principles. Classical theories of gravitation, electromagnetism, and relativity; various forms of quantum mechanics, quantum electrodynamics, and recent theories of particles, fields, and their interactions. Consideration of the effects of physics on modern society and the practice of physics from a value-oriented perspective. Written reports on important original papers, thought-provoking problems combining different fields of classical physics; and a final oral and written report on some independent study. Prereq: Senior standing in Physics or consent of instructor.

411-412 Introduction to Quantum Mechanics (3,3) Fundamental principles of quantum mechanics and methods of calculation. Solution of the Schrödinger equation for simple systems. Application to atomic, molecular, nuclear, and condensed matter physics. Must be taken in sequence. Prereq: 240 or equivalent, Mathematics 435.

421 Modern Optics (4) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces; mathematics of wave motion and interference effects. Rudiments of Fourier optics and holography. 3 hours lectures and 3 hours lab. Prereq: 431 or 136 or 138 or 232 and consent of instructor.

431-432 Electricity and Magnetism (3,3) Electrostatics, magnetostatics, coupled electric and magnetic fields, Maxwell’s Equations, electromagnetic waves and radiation. Prereq: 138 or 136 or 232.

441-442 Contemporary Physics (3,3) An introduction to the major fields of contemporary physics ranging from Cosmology to High Energy. In addition to a discussion of the fundamental concepts of each field, the essential elements of Electricity, Magnetism and Quantum Mechanics will be covered. Must be taken in sequence. Prereq: 240 or equivalent, 311-312, 321.

453-454 Team Research Project (3,3) Student teams will carry out major experimental or computational projects. The team in consultation with the instructor will choose the topic and develop a plan for the project. Each team will conduct several oral presentations in an independent manner, carry out the project, and produce a final written report. Must be taken in sequence. Prereq: 361, 461.

461-462 Modern Physics Laboratory (3,3) 461 — Introduction to fundamental and modern techniques in experimental physics, and to the theory and practice of measurement and data analysis. Selected experiments in nuclear, atomic, molecular and solid state physics, and modern optics. 6 hours lab per week. Prereq: 361 and either 240 or 411. 462 — Advanced experiments and experimental techniques in modern physics; experimental team work. Thorough quantum mechanical interpretation of the results and preparation of scientific reports. Prereq: 461.

490 Senior Seminar (1-3) Topics of current interest. May be repeated with consent of department. Maximum 6 hours.

491 Foreign Study (3-15)

492 Off-Campus Study (3-15)

493 Research and Independent Study (1-3) Research and study in field of particular interest with faculty guidance. May be repeated with consent of department. Maximum 6 hours.

PLANT SCIENCES (791)

120 Introduction to Plant Sciences (2) Survey of the disciplines and professions addressed by the department’s four academic undergraduate concentrations: landscape design and construction; turfgrass science and management; public horticulture; plant science, biotechnology and horticulture. For departmental majors: enrollment is restricted to freshmen and transfer sophomores. Open to all non-majors.

210 Horticulture: Principles and Practices (2) An introduction to the biology and technology underlying the use and production of horticultural crops and landscape plants. Structure, growth and development of horticultural plants from a practical and scientific approach, environmental effects, basic principles of propagation, greenhouse and outdoor production, nutrition, pruning and chemical control of growth, pest control and branches of horticulture. Prereq: Biology 111 and 112.

220 Basic Landscape Plants (3) Identification, classification, adaptation, culture and landscape design uses of basic ornamental trees, shrubs, and vines. 2 hours and 1 lab. Prereq: Biology 111 and 112.

226 Public Horticulture (2) Study of the public horticulture profession. Attention given to the diversity of public horticulture institutions, career opportunities, and research. Discussion of current topics and issues. Prereq: 120.

230 Interior Plantscaping (3) History and introduction of the interior plantscaping industry. Identification, culture, propagation, and use of plants for the commercial interior plantscape. Management of the interior environment including light, humidity, growing media, insects, and diseases. Commercial use of containers, planters, water features, and artificial plants. Prereq: 120.

240 Turfgrass Management (2) Practical turfgrass management; cultivar selection, identification, and establishment; basic fertility programs, mowing, irrigation practices, and thatch removal and compaction control; pest identification and basic controls. 2 hours lecture. Prereq: Environmental and Soil Sciences 210; Biology 111 and 112.

241 Turfgrass Management Lab (1) Laboratory addressing topics presented in 240. 2-hour lab. Prereq: Environmental and Soil Sciences 210; Biology 111 and 112. Coreq: 240.
280 Fundamentals of Landscape Design (3) History of landscape design as it relates to contemporary applications. Awareness and sensitivity to the landscape; basic graphic skills and design theory with an emphasis on residential landscape planning. Introduction to landform, landscape materials, and planting design. 1 hour and 2 labs.

290 Fall Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of late summer and fall herbaceous ornamental plants including annuals, perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 120.

291 Spring Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of spring and early summer herbaceous ornamental plants including annuals, perennials, herbs, bulbs, and wildflowers. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 120.


329 Horticultural Interpretation: Educational Programming for Adults and Children (1) Strategic planning, programming and budgeting for adult and youth education within a public garden. Prereq: 226.

330 Plant Propagation (2) Physiology, methodology, and environmental requirements for propagation. 2 hours and 1 lab. Prereq: Biology 111 and 112.

331 Interpreting Research Findings (1) Basic statistical concepts required for understanding and evaluating research findings. Prereq: Two mathematics courses.

335 World Food and Fiber Plant Production (3) Introduction to important world crops and production systems. Emphasis on plant terminology, origin and development, world agro-ecosystems, environmental and economic sustainability, current technology in crop production. Prereq: Biology 111-112 or 101-102 or 130-140.

341 Integrated Turfgrass Management and Environmental Benefits (2) Utilization of resources available to the turfgrass manager (e.g. extension, research, professional associations). Benefits of turfgrass in the environment, including bioremediation, urban greening, carbon sequestration. Prereq: 240.

343 Turfgrass Entomology (1) Biological study and collection of arthropods that challenge maintenance of healthy grasses, turf, and sod. Review and discussion of sampling/monitoring strategies and decision-making guidelines to help manage turfgrass pests. Prereq: 240.

348 Landscape Plant Physiology (2) Physiological principles as they relate to landscape design and construction, turfgrass management, and public horticulture: photosynthesis and transpiration, respiration, water and hormonal relations, mineral nutrition, plant development, and response to the environment. Prereq: Biology 111 and 112.

350 Basic Landscape Construction (3) Basic materials and detailing. Introduction to the landscape construction and contracting industry; application of landscape materials, wood, concrete and masonry construction, site drainage, and landscape grading. 2 hours and 1 lab. Prereq: 280.

353 Plant Genetics, Breeding, and Biotechnology (3) Genetic principles and techniques used in plant modification. Principles of molecular, transmission, and quantitative genetics as applied to plant breeding. Prereq: Biology 111 and 112.

360 Practicum in Landscape Construction (3) Practical experience in implementation of landscape development projects. Directed lab and field instruction in planting operations and basic landscape construction including interpreting and implementing landscape design drawings and specifications. Two 3-hour labs. Prereq: 350.

370 Grounds Maintenance (3) Identification and understanding of maintenance tasks; transplanting, soil amendments, growth control, irrigation, climate protection, and pest control. Maintenance and use of equipment; management practices. 2 hours and 1 lab.


421 Native Plants in the Landscape (3) Native plants and plant communities as a basis for landscaping and environmental restoration. Weekly lecture coupled with either an outing or service practicum of invasive exotic plant removals or planting of natives. Study and work sites will primarily be demonstration projects of the University of Tennessee Environmental Landscape Design Lab. They include local schoolyard habitats, greenways, wetlands, streambanks, and shorelines. Prereq: 220 or Ecology and Evolutionary Biology 330.

427 Management and Administration of Public Horticulture Institutions (2) Management of resources in non-profit institutions, support organizations and communities. Theoretical framework and institutional mission; strategic planning and programming; financial accounting and budgeting; development and fund raising; personnel policies; volunteer development; marketing and publicity; legal issues; relationships between staff and governing boards; the use of information technology in management and governance systems; and conservation/preservation roles in community development. Prereq: 226.

429 Field Study of Public Horticulture Institutions (2) Extended 10-12 day field study of various public horticulture institutions such as botanical gardens, arboretas, historical gardens, zoos, conservatories, cemeteries, and nature preserves. Application and travel fee required. Prereq: 226.

430 Greenhouse Management (3) Principles of greenhouse operation and management for commercial crop production. Greenhouse construction and operation, crop scheduling and cost accounting. Environmental inputs and cultural practices as they affect plant physiological processes and influence plant growth and development. 2 hours lecture and one 2-hour lab. Prereq: Agriculture and Natural Resources 290 or Computer Sciences 100 or equivalent.

432 Weed Management (3) Principles of weed interference, integrated management, herbicide selectivity and behavior, specific recommendations for various crop and non-crop situations. 2 hours and 1 lab. Prereq: Environmental and Soil Sciences 210. Students who have received credit for 334 may not receive credit for 432.

434 Fruit and Vegetable Crops (3) Botanical description, geographical distribution, general cultural practices of warm and cool season vegetables, small fruits, and deciduous tree fruits. A Saturday field trip is required. 2 hours lecture and one 2-hour lab. Prereq: 120, Biology 111 and 112.

435 Field and Forage Crops (2) Agronomic principles of crop production and management. Crop improvement, cropping systems, tillage, fertilization, pest management, harvest and utilization of major field and forage crops. 2 hours and 1 lab. Prereq: 335.

436 Plant and Garden Photography (2) Principles and techniques of photography as they relate to plants and gardens. Study of equipment options and field shooting under various weather conditions and in different seasons. Prereq: Senior standing and consent of the instructor.

437 Public Garden Operations and Management (2) An analysis of year-round operations and management of public gardens. Case studies involving time and labor management, budget development and management, implementation of volunteer programs, information dissemination methods for public outreach, management of grounds and facilities using the University of Tennessee Institute of Agriculture Gardens as a model. Prereq: 226.

441 Advanced Turfgrass Management (2) Principles and scientific basis of turfgrass culture; adaptation, ecology, physiology, climatic influences on grass culture; clipping and water management; design. 1-hour lecture and one 1-hour lab. Prereq: 240.


446 Horticultural Therapy (2) Introduction to the application of horticulture as therapy for treatment, rehabilitation and/or training of individuals with disabilities. Prereq: Senior standing.

448 Horticultural Internet Technology (3) Creation and management of information resources for the internet, with a focus on development of visual and oral communications skills through a series of individual and team exercises in writing, graphics and public speaking. Prereq: Communication Studies 210 or 240, and senior standing. (HUC)
450 Specialty Landscape Construction (3) Methods of design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, garden ponds and water features.

451 Plant Tissue Culture (3) (See Entomology and Plant Pathology 451.)

454 Plant Biotechniques (3) Lectures will discuss recombinant DNA technology, molecular assisted breeding of economically important crops, gene cloning and transformation technologies. Examples will be given of food and ornamental crops, pharmaceuticals, and renewable energy sources produced using biotechnology as well as potential risks of this technology. Labs will include electrophoresis, tissue culture, plasmid local, genomic DNA local, PCR, plant transformation, genomic techniques. 1 hour and one 3-hour lab. Prereq: 353 or Biology 240.

457 Weed Management (2) Principles of weed interference, integrated management, herbicide selectivity and behavior, specific recommendations for various crop and non-crop situations. Prereq: Environmental and Soil Sciences 210.


460 Professional Practices in Landscape Construction and Management (2) Professionalism, salesmanship, proposals, bidding, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contracting industry. Includes presentations by industry representatives. 2 hours. Prereq: 350.

461 Statistics for Biological Research (3) Application of statistics to interpretation of biological research. Notation, descriptive statistics, probability, distributions, confidence intervals, t- and chi-square tests, analysis of variance, mean separation procedures, linear regression and correlation. Students may not receive credit for both 461 and 561. Prereq: Mathematics 125 or 152.

470 Professional Practices for the Green Industry (3) Professionalism, sales, sales proposals, budgeting, managerial skills, estimating, specifications, and contract management in the turf, public horticulture and plantscaping professions. Prereq: Two 300-level or 400-level Plant Sciences courses.

480 Advanced Landscape Design (3) Comprehensive application of landscape design skills to a variety of project experiences with an emphasis on landscape planning and analysis, planting design, and materials estimating. Two 3-hour labs. Prereq: 280, 380.

485 Computer Aided Landscape Design (3) Overview of Computer Aided Design (CAD) as it relates to landscape design and construction. Emphasis on development of landscape design drawings through utilization of LANDCAD software. Prereq: 280, 380, and Agriculture and Natural Resources 290 or Computer Science 100 or equivalent.

492 Internship in Horticultural and Plant Sciences (1-3) Supervised work experience with a departmentally-approved employer within the ornamental horticulture, turfgrass, production horticulture, or field crop science industry. May be repeated. Maximum of 6 hours. Satisfactory/No Credit grading only.

493 Problems in Horticultural and Plant Sciences (1-3) Supervised individual problems relating to the plant sciences or landscape design. May be repeated. Maximum of 6 hours.

494 Professional Horticultural Communications (3) Communication for public horticulturists through written, oral, and visual media. Emphasis on communication skills using proper writing techniques and grammar for print media, brochure design using desktop publishing, slide show development, oral presentations, and video use for educational and informational presentations in ornamental horticulture. Prereq: Agriculture and Natural Resources 290, Computer Science 100 or equivalent, and senior standing.

497 Undergraduate Research Participation (1-3) Experiences in active research projects under supervision of staff members. Student should make arrangements for research project with instructor prior to enrollment. Prereq: Junior or senior standing, minimum grade point average 3.00 and consent of instructor. May be repeated. Maximum 6 hours.

POLITICAL SCIENCE (801)

101 United States Government and Politics (3) Introduction to fundamental institutions and processes of American National Politics including the Constitution, voting, the Presidency, the Congress and the courts.

102 Introduction to Political Science (3) Introduction to politics and political systems emphasizing government in a cross-national and global perspective. Focus on the knowledge and principal concerns of political science as a social science. (SS)

107 Honors: United States Government and Politics (3) Analysis and exploration of the American political system for students with superior ability. In order to enroll: (1) current students must have a cumulative GPA of 3.25 or higher; (2) incoming students must have either a 29 ACT composite or 1250 SAT composite.

300 Introduction to Political Philosophy (3) An introduction to the concepts, enduring questions and significant thinkers associated with political philosophy with specific attention to differing conceptions of human nature, politics, the state, civic obligation and rights, freedom, justice and democracy.

311 Contemporary Issues in American Public Policy (3) Selected public policy issues confronting the nation, including the background, nature, and effects of present policies, and options for the future. Writing-emphasis course.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on the role of film, television, fiction, music, drama, art and sports. Writing-emphasis course. (Same as American Studies 312; Cinema Studies 312.)

315 Tennessse Government and Politics (3) Major elements in Tennessee government and politics.

320 State Government and Politics (3) Setting, institutions, and processes of government in the fifty states: generalizations and comparisons, with emphasis on federalism and intergovernmental relations.

321 Urban Politics and Process (3) Development of politics and policy-making in the modern American city. (Same as Urban Studies 321.)

330 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Examples from case law, legislation, and administrative regulation. Writing-emphasis course. (Same as Legal Studies 330.)

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management and administrative responsibility; the policy-making process, political environment.

341 Judicial Process (3) Courts as components of political systems, and public policy making through judicial decision making. (Same as Legal Studies 341.)

350 Political Change in Developing Areas (3) Characteristics and problems of political changes with primary focus on developing areas. Writing-emphasis course.

361 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems. Writing-emphasis course.

365 Introduction to International Relations (3) Resource availability, international economics, international security and peace (imperialism, war, diplomacy, the balance of power, international law and international organization.) Writing-emphasis course.

366 United States Foreign Policy Process (3) Processes whereby United States foreign policies are made and implemented, focusing on interaction within federal bureaucracy and roles of the President, Congress, the press, and public opinion.

370 Contemporary International Problems (3) Analysis of current international events.

374 American Political Thought (3) Major themes and ideas in American political thought related to the development of American political institutions, values, and practices. Writing-emphasis course.

387-388 Junior Honors Seminar (3,3) Required of honors majors; admission with consent of department.

401 Political Analysis (3) Nature, character, and functions of research design, data collection, and statistical techniques used in the study of politics. (Same as Legal Studies 401.)

402 The City in the United States (3) Development and character of U.S. cities. Contemporary issues and selected case studies (Same as Urban Studies 411.)
431-432 Topics in the Literature and Language of the Portuguese-speaking World (3,3) Outstanding works of literature and culture from the countries where Portuguese is spoken. Topics may vary. Prereq: At least one course at the 300-level or the equivalent. May be repeated. Maximum 12 hours. (Same as Latin American Studies 431-432.)

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business director. For language and world business majors only. Satisfactory/No Credit grading only.

491 Foreign Study (1-15)

493 Independent Study (1-15)

PSYCHOLOGY (830)

110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience. (SS)

117 Honors: General Psychology (3) Open to University Honors Students and to students with ACTs of 29 or higher (or SAT equivalent). Prereq: Consent of instructor. (SS)

210 Biological Basis of Behavior (3) Survey of theories and research concerning the role of genetic factors, nervous and endocrine systems, and other biological influences on behavior. Prereq: 110.


295 Research Analysis in Psychology (3) An introduction to the research methods and data analyses used in psychological research. This course should be taken as soon as possible after declaring psychology a major. Prerequisite: 110.

300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physical, cognitive, social, and emotional development. Prereq: 110.

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. Prereq: 110.

320 Motivation (3) Survey of theories and related research; discussion of applications. Prereq: 110.


340 Honors Seminar (1) Classic works in psychology; professional and ethical issues in psychology; presentations of faculty scholarship and honors students’ projects. Meets weekly. Prereq: Consent of instructor. May be repeated. Maximum 8 hours.

360 Social Psychology (3) Theories, methods, and findings of research concerning individual behavior in a social context. Prereq: 110.

367 Psychology Honors Project (3) Independent studies course which leads to the Honors thesis. Students must have plans of study approved by their mentor prior to enrollment. Prereq: Consent of instructor. May be repeated. Maximum 15 hours. Satisfactory/No Credit grading only.

370 Ethology and Sociobiology (3) (See Ecology and Evolutionary Biology 370.)

382 Contemporary Topics in Psychology (3) Current issue or problem, such as architectural psychology, impact of technology, artificial intelligence, or stereotypes. Different topic each semester. Prereq: 110 and upper-division standing (30 or more semester hours). Maximum of 6 hours may be applied toward major. May be repeated. Maximum 9 hours.

385 Statistics in Psychology (3) Descriptive statistics; logic of hypothesis-testing and statistical inference. Basic parametric and nonparametric tests.

395 Methods of Research in Psychology (3) Fundamentals in the design, conduct, and interpretation of research, including systematic observation, experiments, quasi-experiments, and program-evaluations. Focus on both laboratory and natural settings. Prereq: 110, 385 or Mathematics 115 or Statistics 201, and junior standing (60 semester hours).

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings. Prereq: Consent of instructor. Note: Any combination of 6 hours of 399, 489, 491, 492, 493 may be used in major. An additional 6 hours may be used as elective. May be repeated.

400 Cognitive Psychology: Language and Symbolic Processes (3) Psychology of knowing, explaining, and understanding. Directed and associative thinking, memory, problem-solving, and concept-formation. Nature, use, and development of language. Prereq: 110 and junior standing (60 semester hours) or consent of instructor.

409 Group Facilitation (3) Study of theory and technique through supervised experience in small groups. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. May be repeated. Maximum 6 hours.

410 Sensory Processes and Perception (3) Physiological and psychological theories of perception. Emphasis on audition and vision. Prereq: 110 and junior standing (60 semester hours) or consent of instructor, 385 or Mathematics 115 or Statistics 201 or graduate standing.

415 Psychology of Religion (3) History of the psychology of religion with an examination of various philosophical and empirical orientations. Exploration of the psychological function of religion for individuals and society. Prereq: 110, junior standing (60 semester hours) or consent of instructor. (Same as Religious Studies 415.)

420 History and Systems of Psychology (3) History of psychological thought. Classical approaches and recent developments. Prereq: 110, junior standing (60 semester hours), or consent of instructor, or graduate standing.

424 Psychology and the Law (3) Psychological aspects of legal systems. Prereq: 110, junior standing (60 semester hours) or consent of instructor, or graduate standing.

430 Health Psychology (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatments to physical illness. Prereq: 110, junior standing (60 semester hours) or consent of instructor.


434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Importance of gender roles and stereotypes for behavior and experience. Prereq: 110 and junior standing (60 semester hours) or consent of instructor. (Same as Women’s Studies 434.)

440 Organizational Psychology (3) Social-psychological analysis of organizations, emphasizing role-theory and systems theory. Prereq: 110, 360, junior standing (60 semester hours) or consent of instructor. (Same as Management 440.)

445 Measurement and Testing (3) Theory of test construction and psychological measurement. Statistical methods in measurement. Survey of existing tests. Prereq: 110, Psychology 385 or Mathematics 115 or Statistics 201 and junior standing (60 semester hours) or consent of instructor.


450 Comparative Animal Behavior (3) (See Ecology and Evolutionary Biology 450.)

459 Comparative Animal Behavior Laboratory (3) (See Ecology and Evolutionary Biology 459.)

461 Physiological Psychology (3) Nervous system and physiological correlates of behavior. Biological basis of emotion, learning, memory and stress. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. One of the following 3 sequences: Biology 101 and 102, Biology 130 and 140, Anthropology 110 and 210.

467 Psychology Honors Thesis (3) Independent study for writing and oral defense of Honors thesis. Prereq: Consent of instructor. Satisfactory/No Credit grading only.

470 Theories of Personality (3) Major theories of human personality and their development. Prereq: 110 and junior standing (60 semester hours) or consent of instructor.

475 Adolescent Development (3) Theoretical perspectives and empirical research findings pertinent to adolescent development. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor.

480 Theories of Learning (3) Classical and current approaches to learning and cognition. Prereq: 110 and junior standing (60 semester hours) or consent of instructor.
482 Topics in Psychology (3) Intensive analysis of special topics, such as African-American Psychology or evaluation of programs in the community. Prereq: 110 and junior standing (60 semester hours) or consent of instructor. No more than 6 hours of Psychology 382, 482 may count towards the major. An additional 6 hours of Psychology 382, 482 may count as electives. May be repeated.

489 Supervised Research (1-9) Prereq: Junior standing (60 semester hours) and consent of instructor. Any combination of 6 hours of 399, 489, 491, 492, or 493 may be used in the major. An additional 6 hours may be used as electives. May be repeated.

491 Foreign Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Any combination of 6 hours of 399, 489, 491, 492, or 493 may be applied toward the major. An additional 6 hours may be used as electives. May be repeated.

492 Off-Campus Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Maximum 12 hours in 399, 489, 492, and 493 may be applied toward major. Any combination of 6 hours of 399, 489, 491, 492, or 493 may be applied toward the major. An additional 6 hours may be used as electives. May be repeated.

493 Independent Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Any combination of 6 hours of 399, 489, 491, 492, or 493 may be applied toward the major. An additional 6 hours may be used as electives. May be repeated.

496 Senior Seminar: Great Ideas in Psychology (3) Key ideas that have shaped conceptions of humankind. Exploration of historical development, scientific evolution, and larger social context. Writing-emphasis course. Prereq: Senior standing.

PUBLIC HEALTH (839)

300 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues.

305 Disease Epidemiology, Prevention, and Control (3) Foundations of epidemiology applied to infectious, acute, and chronic diseases. Emphasis on the applications of public health prevention and control initiatives throughout the disease cycle. Prereq: Ecology and Evolutionary Biology 230.

310 Environmental Management and Control (3) Contemporary principles of control of disease-producing agents in our environment. Emphasizes concepts for effective application of control principles to vocational endeavors and/or daily living activities. Includes: Drinking water quality (chemical, physical and biological), waste management (liquid, solid and hazardous), vector control, safe food management, recreational sanitation and safety to include pool management, shelter hygiene (homes, child care, schools, hospitals, etc.), occupational health and safety.

400 Consumer Health (3) (See Health 400.)

410 Worksite Health Promotion (3) Foundations of health promotion programs delivered in the worksite that revolve around issues relative to employees and management. Emphasis on theory, program design, implementation, and evaluation from the perspective of health promotion specialist. Prereq: 300.

493 Directed Independent Study (1-3) Individual study of selected issues. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

PUBLIC RELATIONS (841)

270 Public Relations Principles (3) Theories and principles of public relations. Overview of public relations in management of business, government, institutions and organizations. Brief case studies and public relations projects.

320 Public Relations Communication (3) Mechanics of effective writing for various media to achieve organizational goals. Overview of governing communication and persuasion theories. Focus on implementation of research-based, planned and managed techniques in a lab setting. Prereq: 270, Advertising 310, Journalism and Electronic Media 200.

370 Public Relations Cases (3) Oral and written analysis of current and classic case studies in public relations. Ethics, professional organizations, publications, research and forms of public relations. Methods of communication and persuasion. Prereq: 270, Advertising 310, 340.

380 Public Relations Professional Seminar (1) Exploration of career choices in mass communication. Resume and letter writing, interviewing, and portfolio preparation. Prereq: Progression as a major in the School of Advertising and Public Relations.

470 Public Relations Campaigns (3) Research, planning and communication and evaluation of major public relations campaigns. Oral and written presentation of a public relations project from inception to completion. Extensive out-of-class work. Prereq: 320, 370.

490 Special Topics (3) Topics vary. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15) Advance approval of hours and topics by advisor required for registration. May be repeated. Maximum 15 hours.

492 Field Experience (1-2) Approved internships and other supervised practice in public relations. Prereq: 320, senior standing, and consent of instructor. May be repeated. Maximum 4 hours. Satisfactory/No Credit grading only.

493 Independent Study (3) May be repeated for maximum of 6 hours. Prereq: Consent of instructor.

READING EDUCATION (847)

329 Teaching Developmental Reading in the Elementary and Middle Schools (3) Methods and background on how to teach word recognitions skills, comprehension, study skills, and how to use materials. Includes units on phonics, evaluation, and basal readers. For BS Education students only. Prereq: Admission to Teacher Education Program.

430 Elementary and Middle School Developmental Reading Instruction (2) Word recognition (including phonics), comprehension, evaluation, and materials. Not open to students who have had recent course in reading methods. Prereq: Admission to Teacher Education Program.

434 Topics in Reading Education (1-6) May be repeated. Maximum 6 hours. Prereq: Admission to Teacher Education Program for a course in Reading Education.

440 Literacy Instruction in the Middle Grades (2) Problems and issues particular to teaching reading in the middle grades including teaching reading in an integrated curriculum, dealing with students reading below grade level, and teaching concept vocabulary.

461 Developing Reading Skills in Content Fields (3) Teaching reading and study skills in content areas of the school program. Extensive assessment of textbooks. Emphasis on middle school and high school.

RECREATION AND LEISURE STUDIES (853)

201 Foundations of Recreation and Leisure and Principles of Leadership (4) Introduction to the recreation and leisure profession focusing on understanding concepts, philosophy, career opportunities and professional practices in leisure service industries. The required lab focuses on the application and practice of theories of leadership.

290 Practicum in Recreation and Leisure Studies (2) Supervised practice in approved agencies offering programs in recreation and leisure services. Each hour of credit requires 50 clock hours of work. For majors only. Prereq: Minimum 2.3 GPA. Satisfactory/No Credit grading only.

310 Development and Evaluation of Recreation and Leisure Programs (3) Essential elements and principles in the organization, administration, marketing, and evaluation of various types of recreation programs. Emphasis on development of program objectives. Practical and comprehensive program designs and evaluation for population and facility within student’s area of interest. Prereq: 201, junior standing, GPA required for admission to major.

320 Therapeutic Recreation and Special Populations (3) Principles, concepts, historical development of recreation, therapeutic recreation, and leisure services to special populations. Explanation of legislation, attitudes, barriers to participants, mainstreaming, advocacy, as related to leisure fulfillment. Prereq: Consent of instructor.

325 Therapeutic Recreation and Lifestyle Planning (3) Emphasis on how therapeutic recreation specialists can use the application of healthy lifestyle principles as a treatment modality. Importance and role of recreation/leisure participation (humor, stress-management, self-responsibility, fitness) in the planning and delivery of therapeutic recreation service for individuals with disabilities. Prereq: Consent of instructor.

390 Practicum in Recreation and Leisure Studies (2) Supervised practice in approved agencies offering programs in recreation and leisure services. Each hour of credit requires 50 clock hours of work. Prereq: Minimum 2.3 GPA. For majors only. Satisfactory/No Credit grading only.
410 Management Concepts of Recreation, Leisure, and Sport Programs (3) Principles for operationalizing recreation, leisure and sport related programs. Units address utilizing research as a management tool, assessing program cost, facility utilization and evaluation and contemporary management concepts. Prereq: 201, 310, or Sport Management 350.

415 Development and Maintenance of Recreation, Leisure, and Athletic Facilities (3) Principles of designing, planning, equipping, operating and maintaining various facilities. Elements of risk management and safety are incorporated into the design process. Prereq: 310, Sport Management 350, or consent of instructor.

420 Principles of Therapeutic Recreation (3) Principles and practices in therapeutic recreation, including activity analysis, activity and program selection, individual and program assessment, treatment plans, documentation, and professional issues. Prereq: 320 or consent of instructor.

425 Therapeutic Recreation Programming (3) Principles and practices of therapeutic recreation programming for individuals with various, and multiple disabilities. Focus is on the social, interpersonal, and behavioral aspects of working with individuals in inclusive therapeutic recreation environments. Includes lab. Prereq: 320 and/or consent of instructor.

430 Organization and Administration of Leisure Services (3) Principles of administration applied to provision of leisure services offered by public, private and/or commercial enterprises. Organizational structures, personnel management, evaluation, legal authority, introduction to budgeting and fiscal procedures. Prereq: 310 or Sport Management 250.

440 Dimensions of Commercial Recreation and Leisure Enterprises (3) Organizational structures, delivery systems, financing private enterprises and operating selected profit centers in a variety of settings. Special attention is given to market performance and economic impact. Prereq: 201, junior standing, or consent of instructor.

450 Special Topics in Leisure Education (1-6) Development of special topics in Recreation/Therapeutic Recreation and Leisure. May be repeated.

470 Tourism and Leisure Industries (3) An examination of the symbiotic relationship between tourism and various sectors of the leisure industry. Use of resources, both natural and developed, and the economic impacts of these ventures. Sociocultural impacts upon the venue and how the venue impacts the local population.

490 Internship in Recreation and Leisure Studies (12) Required of all majors. Application of previous theoretical and applied knowledge and skills in an appropriate recreation/leisure setting. The internship is intended to simulate a full time (40 hours/week) professional level work experience during the entire semester. Therapeutic Recreation Internship must meet NCTRC national guidelines. Prereq: Completed of all core courses, senior standing/2.3 GPA and/or permission of instructor. Satisfactory/No Credit grading only.

493 Directed Independent Studies in Recreation and Leisure Studies (1-3) May be repeated.

RELIGIOUS STUDIES (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions from China, India, and the Mediterranean world. Writing-emphasis course. (CC)

102 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interpretation and the treatment of common problems and themes within religious traditions. Writing-emphasis course. (CC)

223 Varieties of Religious Community (3) How different forms of religious communities (sects, tribes, monastic orders, denominations, familial, etc.) have sought to reject, reinforce, transform, ignore, or dominate their culture and society. (Same as Sociology 232.)

244 Professional Responsibility (3) (See Philosophy 244.) (AH) (OC)

246 Bioethics (3) (See Philosophy 246.) (AH) (WC)

300 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religions; analysis of approaches to the study of religion. Writing-emphasis course.

301 Religious Myth, Symbol, and Ritual (3) Distinctive modes of religious expression and analysis of theoretical approaches appropriate to their particular social and cultural functions in religions.

302 Anthropology of Religion (3) Religions of selected non-literate peoples. Role of religion in their social and cultural systems. (Same as Anthropology 302.)

305 Modern Religious Thought (3) Major themes, issues, and thinkers of 19th and/or 20th century religion. Variable content. May be repeated. Maximum 6 hours.

309-310 Elementary Classical Hebrew (3,3) Basic elements of Hebrew phonology, script, morphology and syntax. Introduction to basic elements of text, form, and literary criticism.

311 Ancient Hebraic Religious Traditions (3) Development of ancient Israelite and early Jewish traditions with emphasis on those concerning the Exodus, Davidic kingship, and Zion in historical, prophetic and apocalyptic material. Writing-emphasis course. (Same as Judaic Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of literary study enhance appreciation of biblical and classical material. Ways in which the western literary tradition has appropriated and recast the biblical and classical heritage. Writing-emphasis course. (Same as Judaic Studies 312.)

313 Religious Aspects of Modern Literature (3) Issues raised for religious inquiry in contemporary literature. Relation of religious moral considerations to problems of literary analysis; relation between religious language and forms of human expression (symbol, metaphor, myth, image) identified in study of literature. Writing-emphasis course.

315 Reformation Europe, 1500-1650 (3) (See History 315.)

320 Women and Religion (3) Concepts of gender in religious traditions, religious, social and psychological dimensions of gender-related symbols (e.g., the Goddess, God the Father) that shape women’s and men’s experiences; contemporary feminist discussions of ways in which religions have liberated and oppressed women. (Same as Judaic Studies 320; Women’s Studies 320.)


322 Christian Thought in Late Antiquity (3) Major themes, texts, and figures of Christianity in the Roman and Byzantine Empires (after the New Testament period). Includes the study of early Christian controversies over topics such as gender and sexuality, Christianity and politics, interpreting scripture, and defining Christian orthodoxy. Writing-emphasis course. (Same as History 322.)

326 Images of Jesus (3) Major portrayals of Jesus Christ from the first century to the twentieth within the context of the cultural milieu which gave birth to each. Extensive use of slides, video material, recordings, and literature.

329-330 Intermediate Classical Hebrew (3,3) —Readings in narrative material from the Hebrew Bible. 330—Readings in poetic and prophetic material from the Hebrew Bible. Prereq: 329 or consent of instructor.

332 Classical Islam (3) Content limited to events prior to 1773 CE, focussing on the Qur’an, the Prophetic Tradition, Islamic law, Sunnism, Shi’ism, and Sufism. Writing-emphasis course. (Same as Asian Studies 332.)

333 Islam in the Modern World (3) Beginning with the Wahhabi revolution (ca. 1773 CE), this course examines movements of revival and reform in modern Islam, as well as worldwide missionary activity and the growth of the Islamic community in the U.S. Writing-emphasis course. Prereq: Religious Studies 332 or consent of instructor. (Same as Asian Studies 333.)

342 Religious Ethics (3) Selected ethical theories and moral teachings of religious communities and thinkers, their action-guides for individuals and institutions, their application to persons and social problems.

351 Introduction to Religion in the United States (3) A representative portfolio of religion in the United States, organized around selected focal themes or problems. Writing-emphasis course.

352 African-American Religion in United States (3) Historical and critical examination of formation and development of African-American religious thought and institutions in America. Writing-emphasis course. (Same as African and African-American Studies 352.)

353 Topics in African-American Religion (3) Selected figures, themes, movements, or problems in the African-American religious tradition. Variable content. May be repeated. Maximum 6 hours. (Same as African and African-American Studies 353.)
355 Religion and Culture in the United States (3) Selected figures, movements, and problems in American religious life, thought, and culture from pre-colonial period to present. Writing-emphasis course. Prereq: 351 or consent of instructor. May be repeated. Maximum 6 hours. (Same as American Studies 355.)

370 Philosophy of Religion (3) (See Philosophy 370.)

373 African Religions (3) Religions of the indigenous peoples of Africa, including how myth, rites, and symbols and certain cultural and political movements in Africa have been and are being informed by religious sensibilities. Writing-emphasis course. (Same as African and African-American Studies 373; Anthropology 373.)

374 Philosophy and Religion in India (3) Survey of the development of the major non-Buddhist themes of philosophical and religious thought in India. Writing-emphasis course. (Same as Philosophy 374.)

376 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. Writing-emphasis course. (Same as Philosophy 376.)

378 Theravada Buddhism (3) Historical study of the Theravada Buddhist tradition in South and Southeast Asia. Focus will be on the cult of the Buddha in Theravada Buddhism, the Theravada interpretation of key Buddhist concepts as found in the Pali canon, and the reciprocal relationship between renouncers and lay persons in the tradition.

379 Religion and Philosophy in China (3) Traditional thought and religion of China in its cultural setting as basis for understanding modern China. Writing-emphasis course. (Same as Philosophy 379.)

380 East Asian Buddhism in Asia and North America (3) An overview of the distinctive forms of Buddhism that arose in China, Japan, and Korea, as well as an introduction to their offshoots in North America.

381 Introduction to Judaism (3) History, traditions, philosophy and religion of the Jewish people grounded in the ancient period, but includes diaspora, emancipation and haskalah. Writing-emphasis course. (Same as Judaic Studies 381.)

382 Religion and Culture in Southeast Asia (3) Historical study of the major religions in Southeast Asia, including indigenous traditions, Hinduism, Buddhism, Islam and Christianity. Focus will be on the historical interplay between religion, culture, and society and the expression of these traditions.

383 Religion in Japan (3) Traditional religious heritage and contemporary expressions of religion in Japan with attention to relationships of persons to nature, self-mastery and spontaneity, individual and community and secular to sacred. Writing-emphasis course.

384 Zen Buddhism (3) Historical, philosophical, and meditational aspects of Zen. Special emphasis on motifs of emptiness, no-mind, and enlightenment and on practices of meditation and the use of the koan. Recommended prereq: One or more of the following: 376, 379, 383.

385 Contemporary Jewish Thinkers (3) Renewal trends in Nineteenth and Twentieth-Century Judaism. Writing-emphasis course. May be repeated. Maximum 6 credit hours. (Same as Judaic Studies 385.)

386 Voices of the Holocaust (3) Historical underpinnings of Nazi genocides such as that of the Jewish people, Gypsies, and homosexuals. The economic, religious, social, and philosophical trends supporting massive genocide. (Same as Judaic Studies 386.)

389 Literature of the English Bible (3) (See English 389.)

401 Texts and the Study of Texts (3) Systematic introduction to the nature and function of (primarily, but not exclusively, oral and written) texts and textual traditions in the study of religion. How texts are made and used historically, how they are recovered and created by scholars, how they are interpreted by religious communities and scholars.

405 Modern Jewish Thought (3) History, culture, and geography of the now Israeli portion of the Levant from 1850 to present. The founding of the modern state of Israel in 1948 and the political complexities of the Middle East. Israeli culture and literature. Writing-emphasis course. (Same as Judaic Studies 405.)

411 Modern Religious Philosophies (3) Religious implications of major Western thinkers and movements from Nicolas of Cusa to the nineteenth-century German Idealists. (Same as Philosophy 411.)

415 Psychology of Religion (3) (See Psychology 415.)

425 Seminar in Western Religions (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

430 Seminar in American Religion (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

440 Seminar in Comparative Religion (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

474 Modern and Contemporary South Asian Religion (3) Religion in India during the Islamic and European colonial periods and in independent India. May include such topics as the development of vernacular forms of Hinduism; Hindu interactions with other religions; the Indian Freedom Movement and Gandhi; women and tradition; religion, secularism, and politics in independent India; and religion and caste in the new India. Writing-emphasis course. Prereq: Religious Studies 374 or Philosophy 374.

490 Readings and Research in Religious Studies (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

499 Proseminar in Religious Studies (3) For advanced students in Religious Studies; required for majors. Selected topics, e.g., nature and function of myth in religion, problem of evil, transcendence, theories of religion, hermeneutics, integrating various disciplines involved in study of religion. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

RETAIL AND CONSUMER SCIENCES (865)

102 Microcomputer Applications (1) Introduction to microcomputer use and applications such as spreadsheets, databases, presentation graphics, and word processing. Emphasis on Excel and PowerPoint via in-class exercises and assignments. Satisfactory/No Credit grading. (Same as Hotel, Restaurant, and Tourism 102.)

210 Introduction to Retail Management (3) Development and overview of retailing, related businesses and industries, and the activities involved in the delivery of goods and services to the consumer.

310 Retail Buying (4) Analysis of the merchandise buying function within different types of retail organizations and structures. Application of principles associated with retail buying. Computer simulations. 3 hours and 1 discussion/lab. Prereq: 102 or equivalent, 210, Mathematics 125, Accounting 200.

311 Developing the Service Workforce (3) (See Hotel, Restaurant, and Tourism 311.)

320 Apparel Product Development (3) Concepts of apparel product development from the retailer’s perspective. Understanding of basic textile and design principles, specification writing, line building, and brand management to develop apparel products for target markets.

341 Family and Consumer Behavior (3) Understanding of behavior of individual and family, demographics, family life cycle, family dynamics and roles, cultural and ethnic influences, and individual and family decision making.

346 Retail Operations Management (3) Analysis of retail operations in terms of organizational structure, logistics and distribution, growth opportunities and productivity. Prereq: 210, Accounting 200.

360 Issues and Trends in Consumer Service (3) Building competencies in providing outstanding customer service in retail organizations. This course will create a unified approach to customer service, recognizing the importance of store environment planning, organizational policies and internal marketing that will lead to increased business by attracting and retaining desired customers. Prereq: 210. (Same as Hotel, Restaurant, and Tourism 360.)

376 Strategies for Growth (3) Issues concerning achievement of business growth with focus upon the consumer, operational, and financial dimensions of the service industry. Prereq: 341; Statistics 201; Marketing 300. Coreq: 310.

390 Professional Development (3) (See Hotel, Restaurant, and Tourism 390.) (WC)

410 Strategic Retail Planning (3) Retail Management from a strategic planning perspective; development and implementation of retail strategy from financial, operational, and customer orientation. Prereq: 376, 422.

411 Entrepreneurship and Small Business Management (3) Concepts of entrepreneurship within single ownership and other business organizations; development of a business plan; management of a small business; current issues and problems. Prereq: 210, 341, Marketing 300, Accounting 200.
412 Direct Retail Methods (3) Issues concerning the use of direct selling methods to sell goods and services. Emphasizes analysis of consumers and product/service types for integrated direct retail methods. The direct retailing methods in this course include direct mail, catalogs, telemarketing, infomercials, and electronic commerce (internet). Prereq: 210, 341, Marketing 300.

415 Retail Promotion (3) In-store promotional activities; development of retail promotion strategies; evaluation of retail promotions; supplementary focus on advertising and other methods to communicate in-store promotions. Prereq: 210, 341, Marketing 300.

421 International Retail Environments (3) The study and analysis of retailing in an international and global setting. Retail processes, practices and issues within international environments—cultural, economic, social, political, legal and business. Prereq: 210, 341, Marketing 300.

422 Professional Experience in Retail and Consumer Sciences (6) Supervised educational experiences in selected retail and consumer sciences service operations. Prereq: Progression into the program and 310, 390.

480 Retail Market Planning and Execution (1-3). Expose students to the process of planning and executing a market trip; involves off-campus experience at a major market center. Prereq: 310, consent of instructor. May be repeated. Maximum 6 hours.

482 Professional Experience in Retailing II (6) Supervised professional experience in selected retail operations that build upon first professional experience. Prereq: 410, 422.

484 International Retail Industry Study Tour (3) Group study abroad involving academic research and field investigation. Prereq: 210 and consent of instructor. May be repeated. Maximum 6 hours.

493 Directed Study (1-3) Individual problems for junior and senior students with special interests in retail and consumer sciences. Prereq: Junior or senior standing and consent of the instructor.

495 Special Topics (3) Topics in retail and consumer sciences. Prereq: Junior or senior standing and consent of the instructor. May be repeated. Maximum 9 hours.

497-498 Honors: Retail and Consumer Sciences (1-3) Individual problems for junior and senior students showing special ability and interest in retail and consumer sciences. Prereq: Recommendation of department head.

RURAL SOCIOLOGY (880)

380 Rural Sociology (3) Topics include the analysis of U. S. land tenure systems, agricultural regions, rural minorities, Amish, farmer organizations, rural institutions, community decision making, local government, rural policy issues, rural industrialization, food policy, and cross-cultural analysis. Prereq: Sophomore standing.

RUSSIAN (886)

101-102 Elementary Russian (4,4) Must be taken in sequence.

199 Russian Language and World Business (2) This course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students in the language and world business program. See the director for further information.

201-202 Intermediate Russian (4,4) Must be taken in sequence. (CC)

221 Rebels, Dreamers, and Fools: The Outcast in 19th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course. (AH) (WC)

222 Heaven or Hell: Utopias and Dystopias in 20th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course. (AH)

311-312 Russian Composition and Conversation (3,3) Practice in writing and speaking; grammar review and vocabulary building. Prereq: Completion of 202.

325 Russian Film (3) A study of Russian cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 325.)

371 Martyrs, Mobs, and Madmen in Russian Culture: 988-1861 (3) Explores various aspects of Russian music, art, and literature, emphasizing violent cultural clashes that produced extreme artistic reactions. Texts in English translation. Writing-emphasis course.


314 Human Behavior and the Social Environment (3) Interrelatedness of biological, social, cultural, environmental and psychological factors in human behavior. Person-in-environment over the life span with special attention to diversity, impact of racism, sexism, and other sociocultural factors. Integration of knowledge into a social work practice perspective. Prereq: Initial progression, English 101-102. Coreq. 312. (WC)

316 Culturally Responsive Social Work Practice (3) Social work practice with diverse populations. Variables including race, ethnicity, gender, class and sexual orientations as they relate to generalist social work practice. Students develop self-awareness of their own culture and the culture of others, acquire knowledge and understanding of the impact of oppression on diverse groups. Prereq: Initial progression. Coreq: 310, 313, 380.

380 Field Practice in Social Work I (3) Eight-hour-per-week, supervised field experience with practice situations for developing professional skills, values and attitudes. Concurrent seminar focuses on integration of knowledge with practice experiences. Prereq: Initial progression. Coreq: 310, 313, 316.

412 Social Work Practice III (3) Generalist practice with emphasis on groups and communities, including treatment theories, techniques, and issues. Prereq: Full progression. Coreq: 416 and 480.


460 Integrative Seminar (3) Social work content for entry-level professional practice and current issues influencing the profession. Includes development of a portfolio reflecting BSW competencies and research development and presentation. Prereq: Full progression. Coreq: 481.

461 Child Welfare Management I: History, Programs, and Policies (3) Study of the child welfare system examining history, policies and programs, both state and federal, pertinent to child maltreatment and juvenile justice. Prereq: 200 and 250 or permission of instructor.

462 Child Welfare II: Skills and Practice Methods (3) Emphasis on the special challenges, needed skills, and different strategies and interventions in the provision of culturally responsive child welfare services. Prereq: 461 or permission of instructor.

480-481 Field Practice in Social Work II, III (6,6) Sixteen-hour-per-week supervised agency field practicum for integration of theory and practice and critical examination of oneself as a professional helping person. Concurrent field seminar on integration of knowledge with practice experiences. Prereq: Full progression.

491 Foreign Study (1-15) Prereq: Consent of instructor.

492 Off-Campus Study (1-15) Prereq: Consent of instructor.

493 Independent Study (1-15) Prereq: Consent of instructor.

SOCIODY (915)

110 Social Justice and Social Change (3) Problems of deviance, crime, and victimization, inequalities in exposure to environmental risks, and inequities in power and participatory democracy within the context of social change. Assessment of control strategies and redress of injustices. (SS)

117 Honors: Social Justice and Social Change (3) Open to University Honors students and by departmental permission to first year students with 28 or higher ACT or 1200 SAT and other students with a minimum of a 3.0 average. (SS)

120 General Sociology (3) Major concepts and theoretical approaches of sociology with emphasis on culture, socialization, social organization, and social stratification. (SS)

127 Honors: General Sociology (3) Open to University Honors students and by departmental permission to first year students with 28 or higher ACT or 1200 SAT and other students with a minimum of a 3.0 average. (SS)

232 Varieties of Religious Community (3) (See Religious Studies 232.)

250 Introduction to Global Studies (3) Exploration of how globalization is fostering change in culture, politics, economics, philosophy, and the environment. Uses interdisciplinary perspectives to understand the relationship between historic processes and the contemporary world, and the reciprocal influences of local dynamics and global change. (Same as Global Studies 250.) (CC)

310 American Society (3) Institutional organization of contemporary American society with major attention to social change. Sociology emphasis course.

311 Family (3) Theoretical frameworks and methodological approaches; their application in the sociological study of past and present family forms.

321 Sociological Theory (3) Survey of contemporary issues and problems in sociological theory with an emphasis on their historical development and their importance for the field. Students are required to form critical appraisals of the topics addressed. Prereq: C- or better in Sociology 110 or 120 or consent of instructor.

331 Sociological Research (3) Selected issues in philosophy of social science, research design, sampling, methods of data collection, and interpretation. Requires written research report. Prereq: C- or better in 110 or 120 or consent of instructor. (Same as Legal Studies 331.)


343 Race and Ethnicity (3) Social sources of racial and ethnic cleavages and social, economic, and political consequences. Emphasis on race and ethnicity in the United States. Sociology emphasis course. (Same as African and African-American Studies 343; American Studies 343.)

344 Power and Society (3) Sociological analysis of the formation and application of nation state policies. Examination of who gets what, why, and how. Emphasis on contrasting explanations of the control of the state and the relative autonomy of the state.

345 Collective Behavior and Social Movements (3) Collective phenomena leading to social change. Response to disaster, popular crazes, and social protests and development, organization, and function of social movements. Emphasis on American cases. (Same as American Studies 345.)

350 Criminology (3) Systematic inquiry into how crime is defined, measured and explained. Implications for criminal justice policy.

351 Juvenile Delinquency and Social Policy (3) This course examines the historical and contemporary nature and social contexts of juvenile delinquency, as well as theoretical explanations of and social reactions to delinquency in American society.

352 Deviance and Social Control (3) Deviants, their lifestyles, social organization, and social control.

360 Environment and Resources (3) Relationship between scarcity of natural resources and changes in societal beliefs and social structure. Topics include social and physical limits to growth and collective action problems. Sociology emphasis course.

370 Social Psychology (3) Social psychological analysis of social behavior emphasizing its acquisition, its enactment, and its dynamic nature.

375 Gender in Society (3) Exploration of gender in society utilizing various sociological perspectives with special focus on the relationships between social structures, social roles, and gender identities. (Same as Women’s Studies 375.)

400 Special Topics (3) Variable topics. Scope of subject matter determined by students and instructor. Consent of department. Prereq: Determined by department. May be repeated. Maximum 6 hours.

442 Comparative Poverty and Development (3) A critical examination of patterns of poverty and inequality in developing areas of the world, along with a review of major sociological theories which attempt to explain differences in patterns of development. Sociology emphasis course. (Same as African and African-American Studies 442.)

446 The Modern World System (3) Critical examination of the capitalist world-system as a social system, its coherence, boundaries, regions, member groups, cleavages, and patterns of conflict. Analysis of who gets what, why, and how in the political economy. Sociology emphasis course.
451 Criminal Justice (3) A critical assessment of the criminal justice apparatus and its components. Brief examination of the police, with most of the emphasis on the criminal courts and institutions and programs such as the prison, probation, and parole. Analysis of their operation and impacts. Prior completion of 350 is recommended. (Same as Legal Studies 451.)

452 Minorities, Crime, and Criminal Justice (3) Examines racial/ethnic disparities in criminal offending and victimization, as well as different experiences with law enforcement, judicial and correctional agencies. Emphasis on social justice.

453 Gender and Crime (3) Probes the gendered nature of offending, victimization and criminal justice. Examines the different experiences of males and females, and theories that attempt to explain these differences.

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice. Writing-emphasis course. (Same as Legal Studies 455.)

459 White-Collar Crime (3) The distinctive nature and dynamics of white-collar crime, victims and costs of white-collar crime, organizations as white-collar offenders, causal theories, and the dynamics of responses to white-collar crime by private and public parties.

460 Population (3) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

464 Urban Ecology (3) The relation of humans to their urban environment with emphasis on conservation and the use of appropriate technology. (Same as Urban Studies 464.)

465 Social Values and the Environment (3) Human dimensions of ecosystem management and public policy. An applied focus on how social values are activated within specific biophysical and social settings. Prereq: 110 or 120 or consent of instructor. Writing-emphasis course.

491 Foreign Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

495 Social Justice and Community Service (3) Examines social stratification, inequalities, and social justice. Service Learning component offers supervised internships in the community with service agencies and non-profit organizations. For sociology majors with senior standing. Instructor's permission required.

SPANISH (924)

111-112 Elementary Spanish (3,3) Language laboratory required. Must be taken in sequence. Not available to students eligible for Spanish 150.

150 Intermediate Spanish Transition (3) This course is designed to prepare students for enrollment in Spanish 211. Prereq: Two years of high school Spanish and a placement score below the level required for admittance to Spanish 211. For elective credit only. This class will not count toward the College of Arts and Sciences intermediate-level foreign language requirement. Since 150 is a review of elementary Spanish, students who receive credit in this course may not also receive credit for any other 100-level Spanish course and therefore also forfeit the six hours of elementary language credit awarded through placement examination.

199 Spanish Language and World Business (2) The course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the Colleges of Business and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in the program in language and world business. See the director for further information.

211-212 Intermediate Spanish (3,3) Prereq: 150 or 112 or Departmental Placement Exam. Must be taken in sequence. Students who place in 200-level courses from high school will receive six hours of elementary Spanish credit. (CC)

217-218 Honors: Intermediate Spanish (3,3) Honors course for students of superior ability in Spanish. Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT. Classes normally held to a maximum of 15 students. Students follow enriched program with continuing emphasis upon speaking ability and with an introduction to reading literary selections. Prereq: 111-112 or equivalent. Students who earn an A or B in 218 receive credit for 300. (CC)

300 Transition: Composition and Grammar through Reading (3) Provides preparation in writing skills and exercise in key elements of grammar through the development of reading comprehension, vocabulary acquisition, and compositions on assigned topics. Prereq: 212 or equivalent or appropriate score on Spanish placement test. Available to non-native or non-bilingual students of Spanish only.

305 Conversation and Aural Comprehension (3) Develops speaking and listening comprehension skills through a variety of in-class and extra-class activities. Prereq: 212 or 218 or permission of department. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines.

323 Upper-level Grammar and Composition (3) Study of the more challenging grammatical issues in Spanish with practical application in composition assignments. Any review of basics covered in previous courses is to introduce finer points. Writing-emphasis course. Prereq: 218 or 300 or permission of department. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines.

330 Textual Analysis (3) Introduction to the art of reading and interpreting literary texts and the writing of critical essays, with attention to language structures, literary terminology, theory and concepts such as romance, tragedy, comedy, irony, narrative voice, symbol, metaphor, etc., with application to works such as short stories, one-act plays, essays, and letters. Writing-emphasis course. Prereq: 323.

331 Introduction to Hispanic Culture (3) Introduction to the fundamental historical, political and demographic developments that led to the creation, geographic distribution and distinctive character of Hispanic cultures, with attention to those qualities that distinguish Hispanic culture from other cultures, as well as to ethnic and linguistic components of the Hispanic world in the present day. Writing-emphasis course. Prereq: 323. (Same as Latin American Studies 331.)

332 Survey of Spanish Literature: 1700-Present (3) Main writers, trends, stylistic periods and artistic movements in Spain since 1700 set against a broad background of cultural, socio-political and historical developments. Emphasis on Neo-classicism, the Romantics, the realists of the 19th century, the Generation of ‘98, the avant-garde of the 1920’s and 1930’s, social realism, women writers, and contemporary developments. Writing-emphasis course. Prereq: 323, 330.

333 Survey of Spanish-American Literature: 1700-Present (3) Main writers, trends, stylistic periods and artistic movements in Spanish America since 1700 set against a broad background of cultural, socio-political and historical developments. Emphasis on Neo-classicism, the Romantics, modernismo, the avant-garde of the 1920s and 1930s, social realism, magical realism, the Latin American boom, women writers, and contemporary developments. Writing-emphasis course. Prereq: 323 and 330. (Same as Latin American Studies 333.)

334 Survey of Hispanic Literatures: Beginnings-1700 (3) Main writers, trends, stylistic periods and artistic movements in Spain and Spanish America up to 1700 set against a broad background of cultural, socio-political and historical developments. Writing-emphasis course. Prereq: 323, 330. (Same as Latin American Studies 334.)

345-346 Language and Culture of the Hispanic Business World (3,3) Commercial vocabulary, business letters, import-export, marketing. Hispanic social management culture, and the global significance of economic and political developments in Spanish-speaking countries. Prereq: 323 or permission of department if a student’s level of proficiency in Spanish is both superior and native as per the ACTFL Proficiency Guidelines.

401 Cultural Plurality and Institutional Changes in Latin America (3) Value systems, behavioral patterns, political parties, role of the military, the church, educational institutions, dictatorship and nationalism. Writing-emphasis course. Prereq: 6 hours of Latin American Studies courses or consent of instructor. (Same as Latin American Studies 401.)

402 Latin American Studies Seminar (3) Selected topics in Latin American Studies. Writing-emphasis course. Prereq: 6 hours of 300- or 400-level Latin American Studies courses or consent of the instructor. May be repeated. Maximum 6 hours. (Same as Latin American Studies 402.)

421 Phonetics (3) Prereq: 323 or permission of instructor.

422 Advanced Grammar and Translation (3) Structure of the grammatical system of Spanish. In-depth analysis of selected syntactic phenomena with practical illustration/application and exercise in Spanish-English and English-Spanish translation. Emphasis on finer points of grammatical structures. Writing-emphasis course. Prereq: 323. Not available to native or bilingual students of Spanish without permission of department.
423 Advanced Composition and Conversation (3) Develops writing and speaking skills to the advanced level, covering a wide range of topics and situations and including a variety of in-class and extra-class activities. Writing-emphasis course. Prereq: 323 or permission of department. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines.

425 Introduction to Descriptive Linguistics (3) (See French 425.)

426 Methods of Historical Linguistics (3) (See German 426.)

429 Romance Linguistics (3) (See French 429.)

430 Topics in Hispanic Linguistics (3) Introduction to the study of the Spanish language through different areas of linguistics such as phonology, morphology, syntax, semantics, sociolinguistics, dialectology and second language acquisition. Writing-emphasis course. Prereq: 323. May be repeated. Maximum 6 hours with permission of department. (Same as Linguistics 431.)

433 Images of Woman in Hispanic Literature (3) Examines major Hispanic texts (and/or women authors) in the light of the relation of female individuality to a particular social context, the role of women in society, patriarchal tradition, woman as cultural and as aesthetic value (the feminine symbolic), and feminist theoretical issues. Writing-emphasis course. Prereq: 323, 330, completion of major or minor requirements in 332, 333, 334.

434 Hispanic Culture through Film (3) Analysis of selected films on subjects concerning life, culture, and artistic traditions in the Hispanic world: exploration of ideological, philosophical, social, and political implications of films and a comparison of them with treatments of related subjects in other types of artistic production. Writing-emphasis course. Prereq: 323, 330, completion of major or minor requirements in 332, 333, 334. Taught in Spanish. May be repeated. Maximum 6 hours with permission of department. (Same as Cinema Studies 434.)

461 Special Topics (3) Focus on some aspect of Hispanic literature, culture, linguistics, or foreign language pedagogy. Topics vary. May be repeated with consent of department. Maximum 6 hours.

465 Latin American Film and Culture (3) Explores Latin American and Latino/a films and videos from 1900s to present as works of art and in light of political, cultural, and social contexts. Taught in English. 1 hour lecture, 2 hours screening, and 1 hour discussion. Not available for Spanish major or Spanish graduate credit. Graduate credit available for Latin American Studies and Cinema Studies. Writing-emphasis course. (Same as Cinema Studies 465; Latin American Studies 465.)

479 Disenchedanted Texts in Hispanic Literature (3) Texts representing trends and periods of renewal in Spain and Latin American countries. Selected topics on traditions in crisis. Content will vary. Writing-emphasis course. Prereq: 323, 330, 331, completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department. (Same as Latin American Studies 479.)

480 Social Forces in Hispanic Literary Expression (3) Analysis of major Hispanic texts that feature social factors and events that influenced and/or continue to influence the social and cultural evolution of the Hispanic world, including literature itself. Writing-emphasis course. Prereq: 323, 330 and completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department.

482 Trends in Hispanic Thought (3) Intellectual/philosophical currents represented in literary works, selected thinkers, or movements from historical periods of Spain and Latin American countries. Writing-emphasis course. Prereq: 323, 330, completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department.

484 Race, Ethnicity, and Nation in Hispanic Literature (3) Close reading and analysis of literary texts that deal with issues of race and ethnicity in the Hispanic world, especially with regard to identity and concepts of nationhood. Among possible course topics: mestizaje; conceptual distinctions between race and ethnicity in Latin America; indigenismo; afrocentrism; issues of monarchy and empire; relationship between Jews, Christianity, and Moors in Spain. Writing-emphasis course. Prereq: Spanish 323, 330 and completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department.

486 Literary and Artistic Movements in the Hispanic World (3) Examination of relationships (thematic, cultural, socio-political, aesthetic, philosophical, etc.) between specific trends in literature and other artistic media, in the light of the historical contexts in which those relationships emerged. Writing-emphasis course. Prereq: 323, 330 and completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department.

489 Topics in Hispanic Civilization (3) Analysis of major trends, issues and/or movements in the civilizations of Spain and Spanish America. Political, literary, and cultural perspectives dealing with topics from the Middle Ages to the present day may be explored. Writing-emphasis course. Prereq: 323, 330, completion of major or minor requirements in 332, 333, 334. May be repeated. Maximum 6 hours with permission of department.

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business director. For language and world business majors only. Satisfactory/No Credit grading only.

491 Foreign Study (1-15)

492 Independent Study (1-15)

494 Spanish Community Service Practicum (1) Supervised community service with local agencies that assist Hispanic community or supervised activities with local cultural organizations that promote awareness of Hispanic culture among the general public. Each credit hour requires 40 semester hours of off-campus supervised work and a weekly one-hour tutorial with a faculty member. Prereq: Completion of 18 hours of upper-division Spanish and consent of instructor. Not available for credit in the major. Maximum of one credit hour per semester. May be repeated. Maximum 3 hours. Satisfactory/No Credit grading only.

SPECIAL EDUCATION (932)

310 Special Education Principles (3) Introduction to the field of special education, including the nature and causes of disabling conditions, family systems, a history of the field, and current policies. Prereq: Admission to Teacher Education Program.

320 Special Education Strategies (3) Introduction to basic special education procedures, including formal and informal assessment, planning, development of individual education plans, applied behavioral analysis, appropriate medical procedures, and effective instructional strategies. Prereq: 310, Admission to Teacher Education Program.

402 Professional Studies: Special Education and Diverse Learners (2) Characteristics and needs of students with disabilities and diverse learners with emphasis on educational implications. Techniques, strategies and resources for teaching students with special learning, behavioral or medical needs, and the requirements of special education laws. Prereq: Educational Psychology 210, Admission to Teacher Education.

410 Early Childhood Special Education Foundations (3) Introduction to the field of early childhood special education including the nature of disabling conditions; theoretical perspectives in the field; legislation; policies and procedures used in the field. Prereq: Admission to Teacher Education Program.

419 Psychology and Education of Students with Mild Disabilities (6) Nature and characteristics of persons with mild handicaps and the educational strategies appropriate for these persons. Prereq: 402, Admission to Teacher Education Program. Coreq: 420.

420 Field Experience in Special Education Programs (3) Practicum in teaching special education programs: planning, developing, implementing and evaluating instruction. Prereq: 402, admission to Teacher Education Program. Coreq: 419 and/or 471. Satisfactory/No Credit grading only.

431 Field Experience in Comprehensive Programs (3) On-site teaching experience with moderately and severely handicapped children and youth. Prereq: 402, Admission to Teacher Education Program. Coreq: 432. Satisfactory/No Credit grading only.

432 Psychology and Education of Students with Moderate/Severe Disabilities (6) Nature and characteristics of persons with moderate/severe disabilities and the educational strategies appropriate for these persons. Prereq: 402, Admission to Teacher Education Program. Coreq: 431.

454 Education of the Gifted and Talented Children (3) Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in reference to curriculum and program implementation. Prereq: Admission to Teacher Education Program.

456 Speech and Language Basis of Learning Disabilities in the Classroom (3) Normal communication development; understanding of speech and language impairments in school-age students; integration of oral/written communication skills into existing curriculum, especially for high incidence special education students.

470 Psychology of the Exceptional Child (3) General characteristics and educational needs of exceptional children. Implications of developmental variations for functioning as adults. Enrollment limited to non-education majors.
471 Early Childhood Special Education (6) Assessment, curriculum planning and development and teaching approaches used in early childhood special education. Prereq: Admission to Teacher Education Program.

472 Field Experience in Early Childhood Special Education (2-5) Placement in educational settings serving young children with special needs. Provides experience in assessment, curriculum planning and teaching. Prereq: Admission to Teacher Education Program. May be repeated. Maximum 5 hours. Satisfactory/No Credit grading only.

SPORT MANAGEMENT (957)

100 Orientation to Sport Management (1) Overview of the sports industry and sport management major. Taken the first semester as pre-major.

250 Foundations of Sport Management (3) An introduction to the scope of the sport industry, including why business is involved in sport and an overall evaluation of sport management as a profession. Prereq: 100.

290 Practicum I (3) Supervised part-time field experience at an approved site for the purpose of clarifying career goals. Requires a minimum of 120 clock hours. Prereq: Progression to sport management. Satisfactory/No Credit grading only.

311 Coaching Football (1) Theoretical and practical application of various coaching techniques in football for the prospective secondary/college coach. Includes analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offensive and defensive. Prereq: Consent of instructor.

312 Coaching Basketball (1) Individual and team fundamentals for the high school coach; conditioning, schedule making, and other business arrangements. Prereq: Consent of instructor.

313 Coaching Track and Field (1) Coaching methods and training techniques for various track and field events, including experience observing and working at meets and practices. Prereq: Consent of instructor.

315 Coaching Baseball/Softball (1) Theoretical and practical application of various coaching techniques in baseball/softball for the secondary/college coach. Topics include analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offensive and defensive strategies. Prereq: Consent of instructor.

330 Sport Communication (3) An introduction to the communications industry and its relationship with sport. Students will explore cultural issues, such as gender and ethnicity, and their relationship to sport and media. The course will also provide students opportunities to develop practical communication skills and learn how media and sport interact. Prereq: Progression to sport management.

350 Sport Management: Theory to Practice (3) Overview of managerial theories and applications including responsibilities and practices associated with broad perspectives of sport enterprise. Prereq: Progression to sport management.

360 Sport Governance (3) The primary focus is the organizational structure, authority and functions of governing bodies. Special emphasis is given to the role of the National Collegiate Athletic Association in collegiate athletics.

370 Event Management (3) Study of the various principles involved in the organization, promotion, and management of special events. Students will combine theory and practice through experience with assigned special events. Prereq: Progression to sport management or consent of instructor.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of sport management. Prereq: Progression to sport management. May be repeated.

390 Practicum II (3) Supervised part-time experience at an approved site offering sport management opportunities. Requires a minimum of 120 clock hours. Prereq: 290 and progression to sport management. Satisfactory/No Credit grading only.

440 Sport Marketing (3) Application of fundamental marketing concepts to the sport industry. Marketing research, promotions, fund raising, advertising, and assessment of marketing programs specific to sport will be covered. The historical development of sport marketing will be included. Prereq: Marketing 300 and progression to sport management.

450 Legal Aspects of Sport (3) Identification and application of various areas of law to sport industry. Includes how constitutional law, contract law, anti-trust law, and tort law impact sport management decisions. Special emphasis placed on discrimination in sport (e.g., race, gender, ethnicity, and disability). Prereq: Progression to sport management.

460 Development and Revenue Generation in Sport (3) Designed to provide overview of theories, strategies, and techniques used in the production of revenue for sport organizations and through sporting events. Emphasis on developing balanced, multifaceted programs that target a variety of constituencies in the sport industry.

490 Sport Management Internship (6-12) Supervised work experience at an approved site offering sport management opportunities. Emphasis on managerial tasks and administrative procedures. Requires a minimum of 480 clock hours. Prereq: Progression to sport management, overall 2.5 GPA (transfer work included), completion of all 300-level requirements, and senior standing. Enrollment for two semesters (6 hours each) or one semester (12 hours). Total 12 hours required. Satisfactory/No Credit grading only.

493 Directed Independent Studies (1-3) Independent study in a specialized area of sport management. Prereq: Progression to sport management. May be repeated. Maximum of 9 hours.

SPORT STUDIES (959)

231 Introduction to Sport Psychology (3) Introduction to the psychology of sport and exercise. Includes the scientific study of people and their behaviors in these contexts and the practical application of that knowledge. Topics include: personality, motivation, anxiety, competition and cooperation, group and team dynamics, leadership, goal-setting, self-confidence, injury, moral and ethical considerations, and unhealthy behaviors.

290 Human Motor Behavior (3) Theories and principles explaining motor behavior; psychological factors related to and/or affecting motor skill acquisition and performance. Prereq: At least sophomore standing.

335 Socio-cultural Foundations of Sport and Leisure (3) An overview of the sociological, historical, and philosophical foundations of sport and leisure in American society. Various forms of sport and leisure are explored within a social justice framework based on a cultural studies perspective. Students explore sport and leisure as global phenomena in social, historical and philosophical contexts.

336 Social Issues in Sport (3) An exploration of power relations and cultural ideologies as they impact participation opportunities in sport. Students use in-depth critical thinking analysis to identify and explore social justice issues linked to the major spheres of social life. In addition, moral decision-making and ethical dilemmas in sport, leisure and exercise are addressed.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of Physical Education. Prereq: Progression to the major. May be repeated.

391 Psychology of Coaching (2) Major topics and theories dealing with social-psychological factors affecting and relating to sport performance, with practical implications and applications to teaching and coaching. Prereq: Progression to major or consent of instructor.

493 Directed Independent Studies (1-3) Independent study in a specialized area with physical education. Prereq: Consent of advisor and progression to the major. May be repeated. Maximum 9 hours.

STATISTICS (962)


207 Honors: Introduction to Statistics (3) Intended as an alternative to 201 for higher GPA students. Involves both lecture and labs, prerequisite: Mathematics 125, 141, or 147, two 50-minute lectures, and one 110-minute lab per week. (QR)


320 Regression and Correlation Methods (3) Simple linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regression diagnostics, partial correlation, and categorical data analysis techniques. Use of statistical computing software. Applied course appropriate for a general audience. Prereq: 201 or 251.
330 Experimental Methods (3) Strategies of experimentation, factorial and fractional factorial experiments, sequential experimentation, blocking and run order restrictions, Taguchi’s strategies to reduce variation. Use of statistical computing software. Applied course for a general audience. Prereq: 201 or 251.


471 Statistical Methods (3) Numeric and graphic description of data; probability and probability distributions, simulation; sampling distributions; estimation and hypothesis testing for one and two samples, parametric and nonparametric approaches, bootstrapping; tests for count data; simple and multiple linear regression, diagnostics and validation; analysis of variance. Uses SAS and other statistical software. Prereq: 320 or consent of instructor.


474 Introduction to Data Mining (3) Understanding and application of data mining methods. Data preparation; exploratory data analysis and visualization; cluster analysis; logistic regression; decision trees; neural network; association rules; model assessment; and other topics. Applications to real world data. Use of standard computer packages. Prereq: 471 or consent of instructor.


483 Special Topics in Statistics (1-3) Topics vary. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.


492 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, or government, culminating in a written and oral report. Prereq: Permission of the chairperson of the Statistics Department Undergraduate Affairs Committee. May be repeated. Maximum 6 hours. Satisfactory/No Credit grading only.

493 Independent Study (2-6) Faculty directed reading and investigation of specific topic in probability or statistics culminating in a written report. Prereq: Two courses in statistics and permission of the chairperson of the Statistics Department Undergraduate Affairs Committee. May be repeated. Maximum 6 hours.

THEATRE (976)

100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practices. Writing-emphasis course. (AH)

220 Acting I (3) Basic Acting Techniques.

221 Acting II (3) Further exploration and development of acting techniques through exercises and beginning scene work. Prereq: 220.

242 Fundamentals of Costume Design and Technology (2) Introduce the elements of costume design, technology and the design process. Hands on and lab intensive.

252 Fundamentals of Scene Design and Technology (2) Introduce the elements of scene design, basic scenic technology and the design process. Hands on and lab intensive.

262 Fundamentals of Lighting Design and Technology (2) Introduce the elements of theater lighting design, basic technology and the design process. Hands on and lab intensive. Writing-emphasis course.

300 Play Analysis (3) Study of methods and tools used in script analysis for the purpose of play production. Prereq: 100 or consent of instructor. (WC)


323 Stage Movement (3) Introduction to movement/kinesthetic awareness techniques and their application to performance. Prereq: 220, 221 or consent of instructor.

326 Advanced Voice and Speech (3) Breath-centered voice production: exploration and control of shaping sound; IPA; text work; geared toward acting for the stage. Prereq: 220, 221 or consent of instructor.

340 Costume Design I (3) Development of research, rendering, and conceptualization skills.

345 Costume Construction (3) Techniques in the construction of costumes for the theatre. Prereq: 242 or consent of instructor.

352 Entertainment Technology I (3) Techniques in live entertainment production, including scenic techniques, structures, special effects and rigging. Prereq: 252 or consent of instructor.

355 Scene Design I (3) Designing a set by combining the elements and principles of design composition with dramaturgical research.

362 Lighting Design I (3) In depth lighting design practice and principals. Project and lab intensive. Writing-emphasis course. Prereq: 262 or consent of instructor.

365 Lighting Design II (3) Special studies in history, literature, and criticism (3) Content varies. Concentrated study in a given period or area of theatre history, literature or criticism. May be repeated.

411 Theatre History I (3) Antiquity to 1700. Major historical periods and diverse cultural traditions in world theatre history. Prereq: 300 or consent of instructor.

412 Theatre History II (3) 1700 to contemporary theatre. Major historical periods and diverse cultural traditions in world theatre history. Prereq: 300 or consent of instructor.

420 Special Studies in Acting (3) Content varies. Exercises in selected concentrated areas such as styles, techniques, approaches, e.g., Shakespeare, movement, humor. Prereq: 320 and consent of instructor. May be repeated. Maximum 9 hours.

421 Theatre Projects in International Theatre (3-5) Study and performance of foreign works. Content varies. Language skills required. Prereq: 320 and consent of instructor(s). May be repeated Maximum 9 hours.

425 Selected Musical Theatre Techniques (3) Study and practice of musical theatre material including both dance and vocal work. May be repeated. Maximum 6 hours.


446 Costume Patterning (3) Draping patterns for period costumes. Includes corsetry and the study of historic patterns 1500-1900.

450 Special Studies in Entertainment Technology (1-3) Content varies. May be repeated. Maximum 9 hours. Prereq: consent of instructor.

452 Entertainment Technology II (3) Automation systems in live entertainment, including advanced rigging and flying for stage and film Prereq: 352 or consent of instructor.

454 Scenery Painting (2) Introduction to materials, techniques, and principles of the craft. Emphasis on gaining skill and understanding through studio experience. Prereq: Consent of instructor.

456 Scene Design II (3) Advanced studies in set design. Prereq: 355 or consent of instructor.

462 Lighting Design II (3) Advanced lighting design theory and practice. Lab and project intensive. Prereq: 362 or consent of instructor.

464 Computer Aided Drafting for the Theatre (3) Introduction to entertainment drafting. Emphasis on 2D graphical standards, drafting techniques, drawing layout and presentation.

470 Playwriting (3) Advanced instruction in the writing of plays. Prereq: Consent of instructor.
481 Applied Theatre (1-2) Laboratory in applied theatre techniques for departmental productions. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

**THEORY AND PRACTICE IN TEACHER EDUCATION (978)**

203 Field Study in Education (1-3) Problems of persons in active service in the field. Includes methods of teaching, curriculum materials, school-community relationships and school organizations. May be repeated. Maximum 6 hours.

352 Field Experiences in Teaching: Secondary I (1) Field experiences in tasks related to teaching and teacher roles. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit grading only.

353 Field Experience in Teaching: Secondary II (1) Field experiences in tasks related to teaching and to teacher roles. Prereq: 352 and Admission to Teacher Education Program. Satisfactory/No Credit grading only.

355 Introduction to Secondary Schools (3) Aspects of teaching in grades 7-12, including curricular program and roles and responsibilities of secondary school teachers and administrators. Prereq: Admission to Teacher Education Program.

492 Directed Independent Study (1-3) Tutorial and specialized area. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

493 Independent Study (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

494 Supervised Readings (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

495 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

**UNIVERSITY HONORS (983)**

See University Honors Program for Honors by Contract information.

100 Introduction to University Honors (1) Required of and limited to freshmen students in the University Honors Program. Computer skills, service learning, study abroad options, professional development, and research skills. Satisfactory/No Credit grading only.

157 Arts and Humanities Honors Seminar (3) Interdisciplinary examination of selected issues in the arts and/or humanities. Topics vary. May be repeated if topic differs. Maximum 6 hours. (AH)

167 Social Science Honors Seminar (3) Interdisciplinary examination of selected issues in the social sciences. Topics vary. May be repeated if topic differs. Maximum 6 hours. (SS)

177 Cultures and Civilizations Honors Seminar (3) Interdisciplinary examination of selected global and cultural issues. Topics vary. May be repeated if topic differs. Maximum 6 hours. (CC)

187 Quantitative Reasoning Honors Seminar (3) Interdisciplinary applications of quantitative reasoning methods. Topics vary. May be repeated if topic differs. Maximum 6 hours. (QR)

257 Special Topics in the Arts and Humanities (3) Examination of a selected issue in the arts and/or humanities from a multi-disciplinary perspective. Topics vary. Prereq: English 118 or 102 or consent of University Honors. May be repeated if topic differs. Maximum 6 hours. (AH) (WC)

267 Special Topics in the Social Sciences (3) Examination of a selected issue in the social sciences from a multi-disciplinary perspective. Topics vary. Prereq: English 118 or 102, or consent of University Honors. May be repeated if topic differs. Maximum 6 hours. (SS) (WC)

277 Special Topics in Cultures and Civilizations (3) Examination of a selected global or cultural issue from a multi-disciplinary perspective. Topics vary. Prereq: English 118 or 102, or consent of University Honors. May be repeated if topic differs. Maximum 6 hours. (CC) (WC)

287 Special Topics in the Natural Sciences (3) Examination of a selected issue in the natural sciences from a multi-disciplinary perspective. Topics vary. May be repeated if topic differs. Maximum 6 hours.

337 Honors: Concentration in the Humanities (3) Small group studies of selected topics, issues or problems with a concentration in the humanistic disciplines. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated if topic differs. Maximum 6 hours.

347 Honors: Concentration in the Social Sciences (3) Small group studies of selected topics, issues or problems with a concentration in the social sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated if topic differs. Maximum 6 hours.

357 Honors: Concentration in the Natural and Applied Sciences (3) Small group studies of selected topics, issues or problems with a concentration in the natural and applied sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated if topic differs. Maximum 6 hours.

458 Senior Honors Seminar (1) Required of all University Honors students. Development and oral presentation of Senior Honors Projects. Should be taken one semester prior to the semester of graduation. Satisfactory/No Credit grading only.

491 Honors: Foreign Study (1-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

492 Honors: Off-Campus Study (1-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

493 Honors: Independent Study (1-9) Open to any undergraduate honors student. Proposals must be approved in advance by University Honors. May be repeated. Maximum 9 hours. Letter grade only.

499 Senior Honors Project (3) Required of all University Honors students completing an equivalent senior project for an academic department or program. Substantial scholarly, scientific, or artistic endeavor representing the capstone of a student’s undergraduate education.

**UNIVERSITY STUDIES (984)**

101 Lives and Times (3) Study of biography, autobiography, and biographical theory including factors that shape individual lives. Writing-intensive. Intended for entering students.

210-220 Special Topics in University Studies (1-9, 1-9) Interdisciplinary approaches to selected topics for lower division students. Small group discussion of varying topics that transcend the boundaries of a single discipline. Writing-intensive and team-taught. Permission of instructor required. Variable credit. May be repeated. Maximum 9 hours.

227 Honors: Topics in University Studies (3) Interdisciplinary approach to a significant scholarly or social issue for lower division students. Small group discussion of varying topics that transcend the boundaries of a single discipline. Writing-intensive. Permission of instructor required. May be repeated. Maximum 9 hours.

310-320 Special Topics in University Studies (3,3) Interdisciplinary approaches to issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive. May be repeated. Maximum 9 hours.

311 AIDS and Society (3) Speakers from across the state speak about scientific, social, medical, emotional and financial aspects of acquired immunodeficiency syndrome. Students are required to participate in some AIDS related community activity and to describe that activity in writing.

317 Honors: Special Topics in University Studies (3) Honors course utilizing an interdisciplinary approach to a significant scholarly or social issue. Topics change every semester. Consult timetable for current offering. Discussion-based and writing-intensive. Permission of instructor required. May be repeated. Maximum 9 hours.

322 Technology, Society, and the Common Good (3) Explores philosophical and religious systems with a commitment to stewardship of the planet and those with an antagonistic or neutral perception of the natural world. Systems are presented in conjunction with cultural and species extinctions caused by or related to their beliefs and values.
410-420 Advanced Topics in University Studies (1-9, 1-9) Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive. May be repeated. Maximum 9 hours.

411 Art and Organism (3) Interdisciplinary investigations of the relationship between art and biology. Readings and discussions focus on the idea that, while art is one of the most wholly human cultural endeavors, it is undoubtedly linked to, if not emergent from, our basic biology.

412 Normandy Scholars Seminar: War and Remembrance (9) Enrollment is limited to honors students selected for the Normandy Scholars Program. Students take coursework and travel as a learning community during their time in the program. The course has three coordinated components: Values and Politics; 20th Century French Literature, Culture, and Language; and World War II. The course is team-taught by members of various departments, and prepares students for the culminating integrative four weeks of study in France during the summer term. Coordinator's permission required. Writing-intensive.

417 Honors: Advanced Topics in University Studies (3) Honors course utilizing an in-depth interdisciplinary research approach to a significant scholarly or social issue. Topics change every semester. Consult timetable for current offering. Discussion-based and writing-intensive. Permission of instructor required. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15) 492 Off-Campus Study (1-15) 493 Independent Study (1-15)

**URBAN STUDIES (985)**

200 Human-Environment Systems (3) (See Interior Design 200.)

250 Introduction to Urban Studies (3) Introductory survey of urban studies. Includes a lecture series with urban scholars discussing urban issues as seen by their disciplines.

321 Urban Politics and Process (3) (See Political Science 321.)

350 Practicum in Urban Studies (3) Introductory seminars, written assignments, and hands-on experience in an organization which is working for urban change.

411 The City in the United States (3) (See Political Science 402.)

412 Survey of Planning (3) (See Political Science 403.)

441 Urban Geography of the United States (3) (See Geography 441.)

442 Urban Social Geography (3) (See Geography 442.)

446 Housing (3) (See Political Science 446.)

450 Directed Field Work (3) Participant observation and faculty-directed research. May be combined with 350 in a unified project, subject to faculty approval. Open to Urban Studies concentration majors only. Prereq: Approval of department. Satisfactory/No Credit grading only.

454 Cities and Urban American History (3) (See History 454.)

460 Senior Seminar (3) A capstone seminar taught by an interdisciplinary team of urban studies faculty in a problem-solving context. Writing-emphasis course. Prereq: 250, 350, and senior standing.

464 Urban Ecology (3) (See Sociology 464.)

485 Real Estate and Investment Analysis (3) (See Finance 485.)

493 Independent Study (3-6) May be repeated. Maximum 6 hours.

**WILDLIFE AND FISHERIES SCIENCE (993)**

101 Current Topics in Wildlife Health (1) All aspects of wildlife health including current topics, emerging diseases, impact of diseases on wildlife populations, general disease mechanisms, and career opportunities in the wildlife profession.

201 Seminar in Wildlife Health (1) All aspects of wildlife health with an emphasis on current events and research. Prereq: 101.

301 Introduction to Wildlife Diseases (3) Fundamentals of wildlife health and disease emphasizing relevant current information on the biology of physiological diseases, infectious agents, pathogenesis, epidemiology, wildlife management, interrelationships among diseases of wild animals, humans and domestic animals, and molecular techniques. Prereq: 201, Microbiology 310, 319.

305 Prescribed Fire Management (2) Prescribed fire ecology, use, and management in forest stands. Prereq: Forestry, Wildlife and Fisheries 312.

323 Human Dimensions of Wildlife and Fisheries (1) Examination of the linkages between people, institutions, and society at large to natural resource management practices. Case studies and application of basic skills of group communication and collaborative problem solving and planning will be emphasized. Overnight field trips required.

340 Wetlands Ecology and Management (2) Ecology, restoration, and management of wetland ecosystems including biotic and abiotic processes, functions, and wildlife considerations. Prereq: Forestry, Wildlife and Fisheries 317, or consent of instructor.

341 Law Enforcement and Public Relations (3) Fundamentals and general principles of local, state and federal laws and regulations governing natural resources and their management. Principles and practices of interacting with the public. Prereq: English 102 and Communication Studies 210 or 240 or consent of instructor.

350 Wildlife Damage Management (2) Principles and methods for wildlife damage management including biological, regulatory, practical, and social considerations. Weekend field trips (2) required. 2 hours and 1 lab or field. Prereq: Forestry, Wildlife and Fisheries 317 or consent of instructor.

440 Wildlife Techniques (3) Methods in wildlife damage control, forest, farmland, wildlife habitat management, identification of wildlife field sign, wildlife capturing techniques and management plan preparation. Weekend field trips (2) required. 1 hour and 1 lab or field. Prereq: Forestry, Wildlife and Fisheries 317 or consent of instructor.

442 Fisheries Techniques (3) Active and passive sampling techniques for fish and aquatic organisms; population estimation methods; fish handling and transport; food habits analysis; marking and tagging techniques; age determination and incremental growth analysis; stream assessment; equipment and instrumentation usage and maintenance; safety in sampling methods. Weekend field trip may be required. 1 hour and 1 lab or field. Prereq: Forestry, Wildlife and Fisheries 317 or consent of instructor.

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stocking. 2 hours and 1 lab. Prereq: Forestry, Wildlife, and Fisheries 317 or consent of instructor.

444 Ecology and Management of Wild Mammals (3) Biological and ecological characteristics of game mammals and endangered mammals. Current principles and practices of wild mammal management. 2 hours and 1 lab. One weekend field trip required. Prereq: Forestry, Wildlife, and Fisheries 317 or consent of instructor.

445 Ecology and Management of Wild Birds (3) Biological and ecological characteristics of game birds, endangered birds, and bird pests. Current principles and practices of wild bird management. 2 hours and 1 lab. One weekend field trip required. Prereq: Forestry, Wildlife, and Fisheries 317 or consent of instructor.

450 Fish Culture (3) Principles, concepts, and techniques of culturing economically important fish and shellfish species. 2 hours and 1 lab. Prereq: Senior standing. Students cannot receive credit for both 455 and 555.

456 Recirculating Aquaculture (3) Growing fish in intensive, indoor systems with reconditioned water. Techniques of solids removal, nitrification, and gas balance. Practical experience with operating system. Prereq: Senior standing. Students cannot receive credit for both 456 and 556.

493 Independent Study in Wildlife and Fisheries Science (1-15) Special research or individual problem in wildlife and fisheries science.

496 Internship in Wildlife and Fisheries Science (1-6) Supervised experience at departmental-approved employment location arranged by the student. Internship learning objectives must be pre-approved by the advisor/instructor and the field supervisor. Daily log, supervisor evaluations, and final report required. One credit per two weeks of full-time supervised field experience maximum. Up to 3 credits may be used for science elective. Prereq: Junior standing, consent of instructor. May be repeated. Maximum 6 hours.
WOMEN’S STUDIES (994)

210 Images of Women in Literature: Biography and Autobiography (3)
Introduction to women’s journals, diaries, biographies and autobiographies. Writing-emphasis course.

215 Images of Women in Literature: Fiction, Poetry, Drama (3)
Introduction to the study of women through the roles and stereotypes portrayed in a variety of literary genres (fiction, poetry, and drama), including works from diverse historical periods and cultures. Writing-emphasis course.

220 Women in Society (3) Role played by women in various societies during different historical periods, factors which have limited women’s participation in society, social scientists’ assumptions about women.

230 Marriage and Family: Roles and Relationships (3) (See Child and Family Studies 220.) (SS)

310 Emergence of the Modern American Woman (3) Role of women in the development of American civilization and values. Major topics include women’s legal and political status, the emergence and development of feminism, women and the creative arts, and women’s roles in industrial and post-industrial American society. Writing-emphasis course.

320 Women and Religion (3) (See Religious Studies 320.)

330 Women in Music (3) (See Musicology.) (WC)

332 Women in American Literature (3) (See English 332.)

340 Women, Politics, and the Law (3) An examination of recent changes in the laws affecting women and a study of the role of women in contemporary American politics. Writing-emphasis course. (Same as Legal Studies 340.)

360 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various contemporary cultures: industrial democracies, developing nations, communist countries. A team-taught course with guest lectures and slide presentations. Writing-emphasis course.

375 Gender in Society (3) (See Sociology 375.)

382 Philosophy of Feminism (3) (See Philosophy 382.) (WC)

383 Women in the Greek and Roman World (3) (See Classics 383.)

400 Topics in Women’s Studies (3) Content varies. May be repeated.

410 Sex Role Development: Implications for Education and Counseling (3) (See Counselor Education 410.)

422 Women Writers in Britain (3) (See English 422.)

425 Women’s Health (3) (See Health 425.)

432 Women in European History (3) (See History 432.)

433 French and Francophone Women Writers (3) (See French 433.)

434 Psychology of Gender (3) (See Psychology 434.)

453 Women in American History (3) (See History 453.)

465 Media and Diversity (3) (See Journalism and Electronic Media 465.)

466 Rhetoric of the Woman’s Rights Movement to 1930 (3) (See Communication Studies 466.)

469 Sexuality and Cinema (3) Explores issues surrounding sexuality, gender and cinema from points of view of feminist film criticism. Writing-emphasis course. (Same as Cinema Studies 469.)

476 Rhetoric of the Contemporary Feminist Movement (3) (See Communication Studies 476.)

483 African-American Women in American Society (3) (See African and African-American Studies 483.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15) Registration by consent of chair of Women’s Studies.
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