Course Descriptions

Listed alphabetically by academic department or program

Accounting

ACCT 211 Financial Accounting **3 cr.**
An introduction to the principles and concepts of financial accounting, including the basic accounting process, required to make informed decisions based on financial statement information. Credit cannot be earned for both ACCT 201 and ACCT 211. Every semester.

ACCT 212 Managerial Accounting **3 cr.**
Accounting as a tool for decision making, planning, control and evaluation. Cost-volume-profit analysis, cost behaviour, profit planning and product costing. Every semester. *Prerequisite: C grade or better in ACCT 211.*

ACCT 305 Accounting Systems **3 cr.**
Modern accounting systems, computer applications in accounting problems and systems design. Lab/Lecture. Fall. *Prerequisite: C grade or better in ACCT 311 and COSC 100/110.*

ACCT 311 Intermediate Accounting I **3 cr.**
Accounting standards, conceptual framework, comprehensive development of the accounting process, financial statement preparation, revenue recognition and time value of money. Every semester. *Prerequisite: C grade or better in ACCT 211. Prerequisite or corequisite: MATH 106.*

ACCT 312 Intermediate Accounting II **3 cr.**
Application of accounting theory and techniques, sequel to ACCT 311. Current assets, investments, plant assets, intangible assets, liabilities. Every semester. *Prerequisite: C grade or better in ACCT 311.*

ACCT 313 Intermediate Accounting III **3 cr.**
Application of accounting theory and techniques, sequel to ACCT 311 and ACCT 312. Earnings per share, stockholders' equity, income taxes, pensions and post retirement benefits, leases, accounting changes and error analysis, statement of cash flows and full disclosure. Fall. *Prerequisite: C grade or better in ACCT 312.*

ACCT 315 Cost Accounting **3 cr.**
In-depth coverage of cost-volume-profit analysis, cost behavior and cost analysis. Cost management, cost control, determination, evaluation and analysis. Pricing decisions and decision making with relevant costs. Fall. *Prerequisite: C grade or better in ACCT 212 and ACCT 311.*

ACCT 316 Advanced Cost Accounting **3 cr.**
In depth coverage of job costing, activity based costing and process costing. Flexible budgets, variance analysis, inventory costing and capacity analysis. Spring. *Prerequisite: C grade or better in ACCT 315.*

ACCT 325 Auditing **3 cr.**
Fundamentals of auditing theory and practice. Ethics, legal liability, generally accepted auditing standards, the conceptual framework underlying auditing and reporting. General approaches to auditing financial statements, other services provided by public accountants. Spring. *Prerequisites: C grade or better in ACCT 301 or ACCT 311, and C grade or better in ACCT 305.*

ACCT 330 Governmental and Nonprofit Accounting **3 cr.**
Accounting and financial reporting for state and local governments, and nonprofit organizations such as hospitals and colleges. Fall. *Prerequisite: C grade or better in ACCT 301 or ACCT 311.*

ACCT 340 Financial Reporting Issues **3 cr.**
Investors' use of financial statements, management motives in issuing statements, internal financial versus reporting decisions, economic significance of accounting reports, and the evolution and variety of accounting principles. Dissection of corporate accounting reports required by the financial markets, creditors, and regulatory authorities. Spring. *Prerequisites: 42 credits and C grade or better in ACCT 212 or permission of instructor.*

ACCT 401 Advanced Financial Accounting **3 cr.**
Partnerships, business combinations, consolidated financial statements, international accounting issues, foreign currency transactions, foreign currency financial statement translation and other current topics. Spring. *Prerequisite: C grade or better in ACCT 302 or ACCT 312.*

ACCT 420 Tax **3 cr.**
Federal income taxation of individuals and corporations. Introductory tax research, tax planning, and professional responsibilities. Other topics, such as tax preparation software, at the discretion of the instructor. Fall. *Prerequisites: 75 credits and C grade or better in ACCT 212 or permission of instructor.*

ACCT 421 ADVANCED TAX **3 cr.**
Partnerships, S corporations, and other advanced topics in individual taxation. Other topics, such as basic tax research, tax preparation software, and Maryland income taxes at the discretion of the instructor. Spring. *Prerequisite: C grade or better in ACCT 420.*

ACCT 425 Tax Practicum **3 cr.**
Guided work experience in tax preparation of federal and state returns provided as a community service with National Volunteer Income Tax Assistance Program. Requires a minimum of 50 hours of work after completion of IRS and campus training programs. Does not fulfill ACCT major electives requirement. Repeatable no more than 2 times for credit. Spring. *Prerequisites: ACCT 420 or permission of instructor.*

ACCT 494 Internship in Accounting **3 or 6 cr.**
Guided work experience in public accounting, industry, government or not-for-profit accounting. Minimum of 135 clock hours of experience for 3 credits. Minimum of 270 clock hours of experience for 6 credits. Academic component consists of two research papers on experience-related topics and a detailed report on the internship experience. Previous experience not acceptable for credit. Repeatable for maximum of 6 credits. Every semester and summer. *Prerequisites: ACCT 212, ACCT 312 and departmental approval.*

African American Studies

AAST 200 Introduction to African American Studies **3 cr.**
Overview of critical aspects of the history and culture of African Americans. Employs various interdisciplinary perspectives to explore the experience of Africans uprooted from their land, ways in which these African Americans have adjusted to their new society, and contributed to its growth and development. Spring. *GEP Group F.*

AAST 300 Traditional Africa **3 cr.**
The African pre-colonial states: their governments, economic systems, cultural patterns, achievements, and relations with other African and non-African peoples. Also offered as HIST 301. Variable.

AAST 400 Africans of the Diaspora **3 cr.**
Exploration of the main historical trends, cultural tenets, social movements, and intellectual constructions of the African Diaspora with focus on the international connections created by voluntary and forced migrations of people of African descent in antiquity and modern times. Examination of the historical challenges to Africans of the Diaspora and initiatives taken in the face of various Euro-American systems and institutions. Variable. *GEP Group F.*

AAST 425 History of African American Theatre **3 cr.**
Study of the development of African American theatre from nineteenth century through present. Examination of representative forms, dramatists, theatre artists from across the United States with an awareness of the ways African American theatre interacts with various social, cultural and political concerns. Variable.

AAST 490 Topics in African American Studies **3 cr.**
Variable topics related to African American Studies from disciplines across the University. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: AAST 200 or permission of the instructor.*

AAST 494 AAST Practicum **3 cr.**
Study of African American history and culture through field trips to cities in Maryland and neighboring states, articulated with a theoretical analysis of major themes under study. Readings, some classroom sessions, private consultations with the instructor, and personal writings constitute the theoretical component of the practicum. Lecture, travel, and independent study. Additional fees required. Every semester. *Prerequisite: permission of the instructor.*

Art

ART 100 Art Appreciation **3 cr.**
Introduction to the appreciation and understanding of the visual arts. Every semester. *GEP Group A.*

ART 104 Two-Dimensional Design **3 cr.**
Introduction to the visual organization and formal analysis of two-dimensional design. Critical study, vocabulary, design applications, and media explorations as applied to two-dimensional design. Required of all art majors and minors. Two hr. lecture, 2 hr. lab. Fall.

ART 105 Three-Dimensional Design **3 cr.**
Introduction to the visual organization and formal analysis of three-dimensional design. Critical study, vocabulary, design applications, and media explorations as applied to three-dimensional design. Required of all art majors and minors. Two hr. lecture, 2 hr. lab. Spring.

ART 110 Visual Imagery **3 cr.**
An introduction to the visual arts through theory and practice; exploring basic aesthetic concepts, modes of visual communication, expressive meaning of various materials, theoretical components and symbol systems. Admission priority for Early Childhood and Elementary Education majors. Every semester. *GEP Group A.*

ART 111 Honors: Art Appreciation **3 cr.**
Introduction to the appreciation and understanding of the representational and visual arts. Focus includes the visual arts' relationship to civilizations' ideas, cultural developments in the humanities, and iconography. Fall. Credit cannot be earned for both ART 100 and ART 111. *Prerequisite: acceptance into the Honors Program or permission of instructor. GEP Group A.*

ART 202 Ceramics **3 cr.**
Introduction to ceramic processes, history, and aesthetics of ceramic form; an exploration of functional and sculptural ceramics. Studio performance stressed. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisite: ART 105 or permission of instructor.*

ART 207 Graphic Design **3 cr.**
Basic level graphic processes and techniques: Photoshop and Quark softwares, Macintosh platform. Information and technology fluency. Visual art and graphic design orientation. Two hr. lecture, 2 hr. lab. Every semester. *Tech. Fluency*

ART 209 Crafts Workshop **3 cr.**
A variety of crafts such as textiles, weaving, mosaics, leather, and metalwork. Two hr. lecture, 2 hr. lab. Variable.

ART 212 Drawing **3 cr.**
Fundamental aspects of drawing with emphasis on composition, techniques, and concept. Variety of media techniques and subjects, exploring conceptual and expressive possibilities; drawing as a description of structures within a spatial environment. Two hr. lecture, 2 hr. lab. Every semester.

ART 216 Illustration **3 cr.**
Drawing and painting techniques to develop technical proficiency with emphasis on observation, composition and imagination. Emphasis on processes pertaining to illustrated visual imagery in editorial, digital, institutional and scientific/environmental themes. Two hr. lecture, 2 hr. lab. Spring. *Prerequisites: ART 212 and ART 104.*

ART 221 Painting **3 cr.**
Introduction to painting — color, form, shape, and texture; problems in formal and expressive relationships. Studio performance stressed. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 104 and ART 212, or permission of instructor.*

ART 232 Printmaking **3 cr.**
Introduction to relief, intaglio, planographic, and serigraphic processes. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 104 and ART 212, or permission of instructor.*

ART 235 Photography **3 cr.**
Introduction to still photography: basic camera use, exposure control, and darkroom procedure. Final portfolio of work required. Two hr. lecture, 2 hr. discussion, and one 3-hr. darkroom period per week. Every semester.

ART 236 Digital Imaging **3 cr.**
Introduction to photography and image manipulation using digital processes. Students will study the basics of traditional still photography, but enhance the learning experience through digital production on the Macintosh computer. An introduction to the computer as a tool in fine arts: camera use, scanning, digital manipulation and output. Two hr. lecture, 2 hr. lab. Variable. *Prerequisites: ART 104 or permission of instructor.*

ART 240 Sculpture **3 cr.**
Introduction to classical and contemporary concepts of form and media of sculpting. Physical properties of structure and the nature of materials. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 105 or permission of instructor.*

ART 291 Studio Focus Review **0 cr.**
Registration concurrent with second advanced studio in focus area. May be taken no more than three times. Graded P/N. Every semester.

ART 301 Artistic Traditions: Asia **3 cr.**
Survey of cultures outside the European tradition. An iconographic and aesthetic analysis of Asian traditions: Buddhist, Hindu, and Islamic. Fall, even-numbered years. *GEP Group F.*

ART 302 Artistic Traditions: Africa and the Americas **3 cr.**
Survey of cultures outside the European tradition. An iconographic and aesthetic analysis of the arts of Africa, Pre-Columbian America and the indigenous populations of North America. Fall, odd-numbered years. *GEP Group F.*

ART 307 Computer Graphics **3 cr.**
Introduction to terminology, methods, processes, craft, and technology of the computer graphic designer; emphasis on theory and application of the Macintosh computer system. May be taken only one time for credit. Two hr. lecture, 2 hrs. lab. Every semester. *Prerequisite: ART 207.*

ART 360 Western Art History **3 cr.**
Survey from the prehistoric to the modern. The theoretical evolution of classicism and anti-classicism as evidenced in painting, sculpture and architecture. Fall.

ART 370 Women/Gender and the Visual Arts **3 cr.**
A survey and analysis of the roles of women and gender in artistic production, spectatorship, and critical discourse. Painting, sculpture, and photography. Spring, even-numbered years.

ART 380 19th-Century Art History **3 cr.**
Survey of major artistic developments in Europe and America from the time of the French Revolution until World War I. This course presents the broad context of 19th century art. Fall, even-numbered years.

ART 402 Advanced Ceramics **3 cr.**
Continued study of clays and glazes, potter's wheel and handbuilding techniques; critical analysis and research into historical and contemporary trends. At advanced levels, departmental majors will be involved in research and development of concepts culminating in a final senior exhibition or an internship. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 202 and ART 412, or permission of instructor; concurrent enrollment in ART 291 and second advanced course.*

ART 407 Advanced Graphic Design: Print **3 cr.**
Variety of design problems using Macintosh computers combined with traditional layout and illustration techniques. Emphasis on the historical and functional use of a professional quality portfolio. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 207, ART 307 and ART 412, or permission of instructor; concurrent enrollment in ART 291 and second advanced course.*

ART 408 20th-Century Art History **3 cr.**
Survey of major developments from post-impressionism to post-modernism and the contemporary: Europe and the United States. Spring.

ART 411 Senior Portfolio **3 cr.**
Continued investigation and development of studio work and concepts, culminating in a professional portfolio. Co-registration in ART 491 required. Every semester. *Prerequisite: Passage of studio focus review and senior status. Capstone.*

ART 412 Advanced Drawing **3 cr.**
Continuation of observational figurative and non-figurative drawing. Emphasis on the development of composition, expression, color, use of media and conceptual content. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisite: ART 212.*

ART 414 Adv.Graphic Design: Interactive Multimedia Design **3 cr.**
Processes include digital imaging, digital video and audio production, animation, and interface design and scripting. Emphasis on the formal, historical, and sociological aspects of interactive design. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 407 (twice).*

ART 415 Art Criticism **3 cr.**
Problems in describing, analyzing, interpreting, and evaluating art. History, purposes, conceptual bases, and methods of art criticism; critical performance. Spring. *Prerequisites: ART 360 or ART 408, 60 credit minimum.*

ART 416 Advanced Illustration **3 cr.**
Professional applications in drawing and illustration related to traditional and digital technology. Assignments present industry-specific problems, which encourage students to examine the transition from conceptualization to execution. Professional portfolio development. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hr. lab. Every semester. *Prerequisites: ART 212 and ART 216, or permission of instructor.*

ART 421 Advanced Painting **3 cr.**
Continued study of painting and painting materials through individual problem-solving in objective and non-objective painting; critical analysis and research into historical and contemporary trends. At advanced levels, departmental majors will be involved in research and development of concepts culminating in a final senior exhibition or internship. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hrs. lab. Every semester. *Prerequisites: ART 221 and ART 412, or permission of instructor; concurrent enrollment in ART 291 and second advanced course.*

ART 430 Greek and Roman Art **3 cr.**
A social and art historical analysis of Greco-Roman visual representation. Sculpture and painting. Spring, odd-numbered years.

ART 432 Advanced Printmaking **3 cr.**
Continued study of printmaking processes, refinement of media, and individual expression; critical analysis and research into historical and contemporary trends. At advanced levels, departmental majors will be involved in research and development of concepts culminating in a final senior exhibition or internship. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hrs. lab. Every semester. *Prerequisites: ART 232 and ART 412, or permission of instructor; concurrent enrollment in ART 291 and second advanced course.*

ART 435 Advanced Photography **3 cr.**
In-depth photographic exploration of selected subject matter. Unified photographic thesis required; critical analysis and research into historical and contemporary trends. At advanced levels, departmental majors will be involved in research and development of concepts culminating in a final senior exhibition or internship. Repeatable no more than 4 times for credit. Two hr. lecture, 2 hrs. lab. Every semester. *Prerequisite: ART 235; concurrent enrollment in ART 291 and second advanced course.*

ART 440 Advanced Sculpture **3 cr.**
Continued study of functional and non-functional sculpture, and individual expression; critical analysis and research into historical and contemporary trends. At advanced levels, departmental majors will be involved in research and development of concepts culminating in a final senior exhibition or internship. Repeatable no more than 4 times for credit. Two hrs. lecture, 2 hrs. lab. Every semester. *Prerequisites: ART 240 and ART 412, or permission of instructor; concurrent enrollment in ART 291 and second advanced course.*

ART 452 Ceramic Glaze Research **3 cr.**
Exploration of ceramic glaze components, glaze calculation, glaze surfaces and firing temperatures. Two hrs. lecture, 2 hrs. lab. Variable. *Prerequisites: ART 202, ART 402 or permission of instructor.*

ART 460 Renaissance and Baroque Art History **3 cr.**
The evolution of humanism and realism in the *quattrocento,* mannerism in the *cinquecento*, and caravaggism and classicism in the *seicento*. Fall, odd-numbered years.

ART 490 Special Topics in Art **1-6 cr.**
Concepts or media not regularly presented, using special resources. Lecture and studio or lecture only. Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: permission of instructor.*

ART 491 Senior Review **0 cr.**
Graded P/N. Co-registration in ART 411 required. Every semester.

ART 492 Internship Research **3 cr.**
Academic component of internship. Requires co-registration in 495. Graded A-F. Every semester.

ART 495 Internship in Art **6 or 12 cr.**
Experiential component of internship: guided work experience in conjunction with 492; must directly relate to academic program. Full-time interns register for 3 credits in 492 and 12 credits in 495 and may not enroll in other courses. Part-time interns register for 3 credits in 492 and 6 credits in 495. Graded P/F. Every semester. *Prerequisites: senior status, in good academic standing; submission of Internship Agreement form prior to registering; enrollment for a full year as FSU student; permission of focus supervisor and Department Chair; 3 advanced courses in the focus.*

ART 499 Independent Study **1-6 cr.**
Intensive individual study, staff-directed, in an area of special interest. Repeatable for maximum of 12 credits if topics are substantially different. *Prerequisite: permission of instructor in the focus area. Available only to Art & Design majors, Art History minors, Fine Arts minors, and Graphic Design minors who have completed their respective focus sequences.*

Biology

BIOL 109 Human Biology and the Environment **4 cr.**
Study of the human species with emphasis on the interdependence of humans, other forms of life and the physical environment. Three hrs. lecture, 2 hrs. lab. Not for majors or minors. Every semester. *GEP Group C.*

BIOL 128 Introduction to Ethnobotany **4 cr.**
Introduction into the discipline of ethnobotany focusing on the role of plants in Appalachian and other cultures. Field trips to local parks and visits with people active in the use of plants will provide opportunities for hands-on experience with techniques and methods used by field ethnobotanists. Three hrs. lecture, one 2-hr. lab. Fall.

BIOL 149 General Biology I **4 cr.**
Biological principles and concepts. The life processes, development and relationship among organisms. Three hrs. lecture, 2 hrs. lab. Every semester. *GEP Group C.*

BIOL 150 General Biology II **4 cr.**
Plant and animal groups and the ecosystem. Emphasis on physiology and morphology. Three hrs. lecture, 2 hrs. lab. Required for majors. Every semester. *Prerequisite: BIOL 149.*

BIOL 200 Scientific Investigation and Communication **3 cr.**
Problem solving and communication in the natural sciences. Emphasis on analytical reasoning, application of concepts and principles, and values of language, order and measurement to scientific thought. Three hrs. lecture/discussion. Every semester. *Prerequisite: BIOL 149, MATH 209, and sophomore standing or permission of instructor.*

BIOL 211 Essentials of Anatomy and Physiology **4 cr.**
An introduction to the structure, function, and movement of the human body. Three lectures and one two-hour laboratory period per week. Not for majors. Fall. *Prerequisite: BIOL 149.*

BIOL 230 Wildlife Techniques **3 cr.**
Study and management of wildlife species. Capture, marking, physiological indices, food habits and nutrition, sex and age, population and habitat analysis. Current management practices. Two hrs. lecture, 3-hrs. lab. Fall. Not open to students who have credit for former BIOL 330. *Prerequisite: BIOL 150.*

BIOL 302 Animal Physiology **4 cr.**
Mammalian physiology, with emphasis on basic physiology. Two hrs. lecture, two 2-hr. labs. Every semester. *Prerequisite: BIOL 149, CHEM 202.*

BIOL 303 Plant Physiology **4 cr.**
Higher-plant growth and differentiation. Case-study method. Topics include general differentiation, photometabolism, translocation and water relations. Three hrs. lecture, 3 hrs. lab. Spring. *Prerequisites: BIOL 150 and CHEM 202. CHEM 301 recommended.*

BIOL 304 Microbiology **4 cr.**
Microorganisms, especially their form, structure, reproduction, physiology, metabolism, and identification, will be studied with emphasis on their distribution in nature, their beneficial and detrimental effects on humans, and the physical and chemical changes they make in the environment. Two hrs. lecture and two 2-hr. labs. Every semester. *Prerequisites: BIOL 149, CHEM 202.*

BIOL 305 Dendrology **3 cr.**
Collection, identification, and study of native and introduced woody plants in summer and winter conditions. One hr. lecture, two 2-hr. labs. Fall. *Prerequisite: BIOL 149.*

BIOL 309 General Entomology **4 cr.**
Identification, morphology, physiology, development, geological history, ecology and control of insects. Two hrs. lecture, two 2-hr. labs. Fall, odd-numbered years. *Prerequisite: BIOL 150.*

BIOL 310 Cell Biology **4 cr.**
Dynamics of cells and their life processes. Ultrastructure, organization, thermodynamic and metabolic processes. Recommended for biology majors immediately following BIOL 150. Three hrs. lecture, one 2-hr. lab. Fall. *Prerequisites: BIOL 150, CHEM 202. Corequisite: CHEM 301 or permission of instructor.*

BIOL 311 Morphology of Fungi and Non-Vascular Plants **4 cr.**
Morphology, taxonomy, evolution, and life histories of photosynthetic bacteria, algae, fungi, mycorrhizae, lichens and bryophytes. Emphasis on organisms important to the human species; plant and animal pathogens, and organisms of economic and ecological importance. Two hrs. lecture, two 2-hr. labs. Fall. *Prerequisite: BIOL 150.*

BIOL 312 Morphology of Vascular Plants **4 cr.**
Morphology, taxonomy, evolution and life histories of spore dispersing vascular plants, gymnosperms, and angiosperms. Comparative study of the major organs of each group. Two hrs. lecture, two 2-hr. labs. Spring. *Prerequisite: BIOL 150.*

BIOL 314 Plant Taxonomy **3 cr.**
Classification of flowering plants, gymnosperms, and ferns. Emphasis on collection, identification and preparation of herbarium specimens. One hr. lecture, two 2-hr. labs. Spring. *Prerequisite: BIOL 149.*

BIOL 321 Anatomy and Physiology I **4 cr.**
Structure and function of the human body. Includes its organization, the musculoskeletal system and the nervous system. Two hrs. lecture and two 2-hr. labs. Fall. Not open to students who have credit for former BIOL 201. *Prerequisite: BIOL 149.*

BIOL 322 Anatomy and Physiology II **4 cr.**
Structure and function of the human body. Includes the endocrine, circulatory, respiratory, digestive, excretory and reproductive systems, and human development. Two hrs. lecture and two 2-hr. labs. Spring. Not open to students who have credit for former BIOL 202. *Prerequisite: BIOL 321 or permission of instructor.*

BIOL 328 Economic Botany **3 cr.**
Study of plants and the link between plant structure and human's use of plants. Students will gain an understanding of the form and function of the plant body; plant nomenclature; history of plant use; origins of economically important plants; use of flowers and fruits for food and other purposes; use of roots, stems and leaves for food and other purposes. One hr. lecture, one 4-hr. lab. Spring, odd-numbered years. *Recommended:* BIOL *128, 149 and 150.*

BIOL 334 General Animal Behavior **3 cr.**
Behavior of animals from an evolutionary approach. Research project required. Three hrs. lecture. Spring, odd-numbered years. *Prerequisite: BIOL 150 or permission of instructor.*

BIOL 340 General Ecology **4 cr.**
Environmental relationships of plants and animals. Field laboratory experience. Measuring environmental variables in terrestrial and aquatic ecosystems. Two hrs. lecture, one 4-hr. lab. Every semester. *Prerequisites: BIOL 150, CHEM 202 (or CHEM 201 and permission of the instructor), MATH 209.*

BIOL 350 Genetics **3 cr.**
Laws and molecular basis of inheritance. Genetic patterns and changes at the molecular, organismal and population levels. Three hrs. lecture. Spring. *Prerequisites: BIOL 150, CHEM 202 (or CHEM 201 and permission of the instructor), MATH 209. Recommended: BIOL 304 and 310, CHEM 301.*

BIOL 401 Genetics Laboratory **1 cr.**
Techniques of collection and analysis of genetic data, including molecular, chromosomal, Mendelian and population genetics. One 2-hr. lab. Spring. *Prerequisite or corequisite: BIOL 350.*

BIOL 402 Evolution **3 cr.**
Theories, evidences, and mechanisms of evolution. Three hrs. lecture. Fall, odd-numbered years. *Prerequisite: BIOL 150 or permission of instructor.*

BIOL 404 Histology **4 cr.**
Microscopic structure and function of the tissues and selected organs of vertebrates. Basic laboratory preparative techniques and tissue recognition. Two hrs. lecture, two 2-hr. labs. Spring, even-numbered years. *Prerequisites: BIOL 150; CHEM 201.*

BIOL 406 Ornithology **4 cr.**
Anatomy, physiology, behavior, ecology and evolution of birds. Laboratory emphasis on identification of regional birds at the species and family level. Two hrs. lecture, one 4-hr. lab. Binoculars required. Spring. *Prerequisite: BIOL 149.*

BIOL 407 Biological Systematics **3 cr.**
Principles, concepts, and methodologies used in systematic biology. Methods for reconstructing the evolutionary relationships of plant and animal taxa (including phenetic and cladistic analyses). Procedures for description, classification and analysis of the earth's biodiversity. Three hrs. lecture. Spring, odd-numbered years.

BIOL 410 Plant Diseases **3 cr.**
Nature, cause and control of disease in plants. Plant pathogens: nematodes, viruses, bacteria and fungi in greenhouse, field and forest plants. Laboratory emphasis on identification and preparation of specimens according to phytopathological principles. Two hrs. lecture, one 2-hr. lab. Spring, odd-numbered years. *Prerequisite: BIOL 150.*

BIOL 411 Invertebrate Zoology **4 cr.**
Structure, physiology, life history, and natural history of invertebrate groups. Emphasis on local fauna. Two hrs. lecture, two 2-hr. labs. Spring. *Prerequisite: BIOL 150.*

BIOL 412 General Parasitology **4 cr.**
Principles of parasite structure, function, life cycles and host-parasite relationships. Two hrs. lecture, two 2-hr. labs. Fall, even-numbered years. *Prerequisites: BIOL 150; CHEM 202.*

BIOL 414 Quantitative Analysis of Vertebrate Populations **3 cr.**
A survey of quantitative techniques used to describe, analyze and model wildlife population phenomena and interactions between populations. Three hrs. lecture. Spring. *Prerequisites: MATH 120 or a course in calculus, MATH 209, BIOL 150.*

BIOL 417 Ichthyology **3 cr.**
The study of fishes, with emphasis on structure and function, development, behavior, ecology and systematics. Two hrs. lecture, one 2-hr. lab. Fall. *Prerequisite: upperclass standing in biology or wildlife/fisheries management.*

BIOL 420 Fish Management and Culture **3 cr.**
Contemporary problems in fisheries management. The study of fish culture; alternatives of commercial harvest and culture. Field trips. Three hrs. lecture. Spring. *Prerequisite: senior or graduate standing; MATH 209 or permission of instructor.*

BIOL 421 Sample Design and Analysis of Plant Communities **3 cr.**
Ecology of plant communities in the mid-Atlantic; plant community concepts and attributes; environmental factors influencing the distribution and abundance of plants: light, temperature, fire, soil, water; methods of sampling vegetation; quantitative analysis of vegetation data; multivariate methods of data interpretation including classification and ordination; collection and interpretation of field data; emphasis on modern computer methods. Two hrs. lecture, one 3-hr. lab. Fall. *Prerequisites: BIOL 314, BIOL 340.*

BIOL 422 Herpetology **3 cr.**
The structure, behavior, ecology, evolution and taxonomy of amphibians and reptiles. Laboratory emphasis on identification, anatomy and ecology of local species; techniques of collecting, estimating population sizes, home ranges. Two hrs. lecture, one 3-hr. lab. Spring. *Prerequisite: BIOL 150 or permission of instructor.*

BIOL 423 Mammalogy **4 cr.**
The structure, taxonomy, behavior, ecology, evolution and public health significance of mammals, and history of the science of mammalogy. Laboratory emphasizes anatomy, identification, capture techniques, habitat analysis, and home-range and population characterization. Three hrs. lecture, one 3-hr. lab. Fall. *Prerequisite: BIOL 150 or permission of instructor.*

BIOL 425 Forest Ecology and Conservation **3 cr.**
Investigation of forest ecology, management, conservation, policy, research and history; silviculture, stand dynamics and improvement, reforestation, soils, disturbances and natural pests and pathogens. Patterns and processes of forest communities. Forest products and measurements. Two hrs. lecture, one 2-hr. lab. Fall. *Prerequisite: upperclass or graduate standing.*

BIOL 426 Vertebrate Zoology **4 cr.**
The biology of vertebrates: origin, evolution, classification, structure, ecology, reproduction. Identification of regional examples. Three hrs. lecture, one 2-hr. lab. Spring. *Prerequisite: BIOL 150.*

BIOL 427 Comparative Anatomy **4 cr.**
Emphasis on structural relationships among fish, amphibians, reptiles, birds and mammals based on the evolution and development of organ systems. Dissection of representative chordates. Two hrs. lecture, two 2-hr labs. Not open to students who have credit for former BIOL 327. Every semester. *Prerequisite: BIOL 150.*

BIOL 428 Ethnographic Field Techniques **3 cr.**
Practical training and experience using ethnographic field methods. Introduction to methods ethnographers use including mapping, unobtrusive observation, participant observation, ethnographic and life history interviewing, design and implementation of surveys and questionnaires, and an introduction to participatory research methodologies. A project component is included in the course. Three hrs. lecture. Spring, even-numbered years. *Prerequisites:* BIOL *128 or permission of the instructor. Ethnobotany Capstone.*

BIOL 430 Introductory Limnology **4 cr.**
Inland waters; physical, chemical, and biological aspects. An overview of hydrobiology. Laboratory emphasis on basic analysis of data from aquatic environments. Two hrs. lecture, two 2-hr. labs. Fall. *Prerequisite: BIOL 340.*

BIOL 435 Molecular Biology **4 cr.**
Modern molecular concepts and techniques such as molecular cell function, DNA replication, PCR, protein synthesis, restriction enzyme analysis, DNA sequencing and DNA fingerprinting. Two hrs. lecture, two 2-hr. labs a week. Spring. *Prerequisite: BIOL 304.*

BIOL 436 Electron Microscopy for Biologists **4 cr.**
Principles and techniques of electron microscopy; thin and thick sectioning, positive staining. Use of the transmission and the scanning electron microscopes for animal and plant tissues, micro-organisms and particulates. One hr. lecture, two 3-hr. labs. Spring, odd-numbered years. Enrollment limited to 6, preference to students with an active research project. *Prerequisites: BIOL 310, PHYS 216, CHEM 302; cumulative G.P.A. 3.0; permission of instructor.*

BIOL 437 Molecular Biology Seminar **1 cr.**
Current topics in molecular biology presented by students, faculty and invited speakers coupled with analysis and discussion. Repeatable for maximum of 4 credits if topics are substantially different. Fall. *Prerequisites: senior standing; BIOL 435 or permission of instructor. Biotechnology Capstone.*

BIOL 438 Biotechnology Lab **3 cr.**
Advanced techniques in molecular biology. Topics vary depending on instructors. Topics may include cell culture methods, PCR and DNA sequencing, immunocytochemistry, electrophoretic separation and analysis. Required for biotechnology concentration. One hr. lecture, two 2-hr. labs. Spring. *Prerequisites: junior or senior standing; BIOL 435.*

BIOL 439 Environmental Toxicology **3 cr.**
Interdisciplinary study of the major classes and properties of pollutants, ecotoxicology testing methods and their effects on living organisms and the ecosystem. Two hrs. lecture, two hrs. lab. Variable. *Prerequisites: BIOL 149 and BIOL 150.*

BIOL 440 Developmental Biology **4 cr.**
Classical and modern study of processes producing structural and functional changes during the development of plants and animals. Three hrs. lecture, two hrs. lab. Fall, even-numbered years. *Prerequisites: BIOL 149 and BIOL 150.*

BIOL 445 Immunology **4 cr.**
Introduction to the complex network of cells and soluble mediators that recognize and react to substances foreign to the individual. Principles of immunity, techniques resulting from the study of this system, and pathologies resulting from its malfunction. Two hrs. lecture, two 2-hr. labs. Fall. *Prerequisite: BIOL 304 and BIOL 435.*

BIOL 450 Ecology and Management of Wildlife Populations **3 cr.**
Study of the factors that determine the distribution and abundance of wildlife populations and current management practices used to manipulate wildlife populations. Two-three field trips will be used to gain knowledge of regional management practices. Three hrs. lecture. Fall. *Prerequisites: BIOL 340, and one from 406, 423 or 426.*

BIOL 460 Forestry Field Practice **3 cr.**
A field-oriented overview of basic forestry. Includes field dendrology, silvics, elements of surveying and mapping, orienteering, log scaling, silviculture, timber cruising and wildlife techniques. Numerous field trips to regional forests. Summer Session, odd-numbered years. 1 cr. lecture, 2 cr. lab. *Prerequisites: BIOL 305, BIOL 425 (or permission of the instructor).*

BIOL 465 Environmental Health **3 cr.**
Investigation of the relationship between human exposure to environmental pollutants and resultant adverse health effects. Consideration of epidemiology, exposure assessment, risk assessment and risk management. Variable. Also offered as GEOG 465. *Prerequisite: completion of two laboratory science courses.*

BIOL 484 Field Experiences in Ethnobotany and Ecology **3 cr.**
Unique field course where students gain practical training and experience using ecological and ethnographic field methods. Exploration of environmental impact issues is also part of the course. A research or service learning project is required. Additional travel fees may apply. Even-numbered January Intersessions. *Prerequisite: permission of instructor.*

BIOL 490 Special Topics in Biology **2 to 4 cr.**
A "one time only" course on a special topic selected by the instructor. Variable. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: permission of instructor.*

BIOL 492 Wildlife-Fisheries Seminar **1 cr.**
Current topics in Wildlife and Fisheries presented by students, faculty and invited speakers, coupled with analysis and discussion. For majors in wildlife & fisheries. Variable. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: junior, senior or graduate standing in biology or wildlife/fisheries. Wildlife & Fisheries Capstone.*

BIOL 494 Field Experiences in Biological Sciences **2 to 6 cr.**
Work experience with a federal, state or private agency or industry related to the student's major. Faculty sponsor, project approval and final report by the student required. Variable. Repeatable for maximum of 12 credits if placement sites are different. *Prerequisites: biology, wildlife & fisheries, or interpretive biology and natural history majors only; junior or senior standing. Interpretive Biology & Natural History and Biology (Environmental Science concentration) Capstone.*

BIOL 496 Seminar in Biology **1 cr.**
Current topics in biology presented by students, faculty and invited speakers, coupled with analysis and discussion. Variable. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: senior standing. Capstone for Biology and Biology Pre-Health Professions option.*

BIOL 497 Readings in Biology **1 cr.**
Discussion of readings on selected topics. One period per week. Repeatable to 2 credits. Variable. Repeatable for maximum of 2 credits if topics are substantially different. *Prerequisites: junior or senior standing, biology major or minor, permission of the instructor, completion of request form before registering.* (The department allows only a total of 2 credits in the readings courses 497 and/or 498.)

BIOL 498 Honors Program — Readings in Biology **1 cr.**
Discussion of readings on selected topics. One period per week. Repeatable to 2 credits. Variable. Repeatable for maximum of 2 credits if topics are substantially different. *Prerequisites: senior standing, biology major, 3.0 average in major and completion of request form before registering.* (The department allows only a total of 2 credits in the reading courses 497 and/or 498.)

BIOL 499 Special Problems in Biology **2 or 3 cr.**
Experimental research directed by a staff member. Variable. Repeatable for maximum of 12 credits if topics are substantially different. *Prerequisites: 20 credits in biology, junior or senior standing, permission of instructor, approval of the Department Chair, completion of request form before registering.*

Business Administration

BUAD 100 Introduction to Business **3 cr.**
Introduction to the internal and external environment of contemporary business and a survey of basic concepts, principles, and practices of business organizations. Basic business terminology and concepts for beginning students seeking an introduction to the business world or assistance in making career decisions. Does not count towards business or accounting majors. Every semester.

BUAD 105 Professional Development I **2 cr.**
Introduction to the professional aspects of a career in one of the majors or concentrations offered by the College of Business. Graded Pass/Fail. Strict attendance policy. Every semester.

BUAD 400 Professional Development II **1 cr.**
Provides professional advice for students ending their academic careers and getting ready to embark on professional careers. BUAD 400 is a requirement for graduation with a degree from the College of Business. Graded Pass/Fail. Strict attendance policy. Every semester. *Prerequisite: 100 credits.*

Business Law

BLAW 291 Legal Environment of Business **3 cr.**
The workings and importance of legal institutions; the law as a system of social thought and social action. The analysis and study of the law of contracts, agency, employment, negotiable instruments, real property, personal property, sales and insurance. Credit cannot be earned for both BUAD 291 and BLAW 291. Every semester. *Prerequisite: 30 credits.*

Business Management Information Systems

You cannot receive credit for both a BMIS course and the same course formerly labeled BUAD.

BMIS 320 Advanced Computer Applications in Business **3 cr.**
Managerial applications of the microcomputer most often encountered in business. Word processing for report writing, spreadsheets for financial modeling, graphics for presentations, desktop publishing for business use and managerial data base applications using commercial programs. Every semester. *Prerequisites: MATH 106 and COSC 100/110 or COSC major.*

BMIS 455 Management Information Systems **3 cr.**
Relation of MIS to the management functions of planning, control, and decision making. Concepts that underlie MIS: systems management, databases, computers, telecommunications, and general systems design and implementation. Fall. *Prerequisite: MGMT 351.*

Chemistry

CHEM 100 Chemistry and Society **4 cr.**
Examines the modes of research, the development of modern chemical principles, and the application and subsequent impact of these developments on society. Not intended for natural science majors. Three hrs. lecture, one 2-hr. lab. Every semester. *GEP Group C.*

CHEM 103 Foundations of Chemistry **3 cr.**
Introduction to fundamental concepts, methodology and nomenclature of chemistry, including data analysis, atomic structure, inorganic compounds, chemical equations and reactions, stoichiometry, states of matter, solutions. No laboratory. Every semester. *Prerequisite: Math Level I. Corequisite: DVMT 100.*

CHEM 110 Modern Chemistry and Society **3 cr.**
Non-mathematical approach to chemical principles, modes of chemical research, current applications, effects on the environment, and impact on society. For non-science majors. Three hrs. lecture. Variable.

CHEM 111 Modern Chemistry and Society Laboratory **1 cr.**
Non-mathematical laboratory experiments applicable to modern chemistry. For non-science majors. One 2-hr. lab. Variable. *Prerequisite or corequisite: CHEM 110.*

CHEM 113 Honors: Chemistry and Society **4 cr.**
Examines the models of research, the development of modern chemical principles, and the application and subsequent impact of these developments on society. Both reading and writing components will be more challenging than those in CHEM 100. Credit cannot be earned for both CHEM 100 and CHEM 113. Three hrs. lecture, 2 hrs. lab and 1 hr. recitation. Spring. *Prerequisite: Admission to Honors Program or permission of instructor. GEP Group C.*

CHEM 133 General Chemistry for Engineers **3 cr.**
A math-intensive lecture-only general chemistry course designed for engineering students. Topics include intermolecular forces, thermodynamics, chemical kinetics, catalysis, chemical equilibria, acid-base equilibria, electro chemistry and nuclear chemistry. Fall. *Prerequisites: CHEM 201 or permission of instructor.*

CHEM 201 General Chemistry I **4 cr.**
Atomic and molecular structure, theories of covalent and ionic bonding, chemical reactions, states of matter, gas laws, solutions, reaction rates, stoichiometry, and thermochemistry. Three hrs. lecture, one 3-hr. lab. Every semester. You cannot earn credit for both CHEM 101 and 201. *Prerequisites: C or better in CHEM 103 or placement at Chemistry Level 2 or higher and Math Level II or higher. Corequisite: MATH 102 or permission of instructor. GEP Group C. Note: for information on Chemistry Level placement see Department Chair.*

CHEM 202 General Chemistry II **4 cr.**
Acid-base concepts, equilibria, thermodynamics, electrochemistry, reaction rates, coordination compounds, and organic, nuclear, and descriptive chemistry. Three hrs. lecture, one 3-hr. lab. Every semester. You cannot earn credit for both CHEM 102 and 202. *Prerequisite: CHEM 201.*

CHEM 301 Organic Chemistry I **4 cr.**
Chemistry of the compounds of carbon. Classes and nomenclature of compounds, structure, reactions, mechanisms, spectroscopy, and stereochemistry. Three hrs. lecture, one 3-hr lab. Fall. *Prerequisites: CHEM 201 and 202 or equivalent.*

CHEM 302 Organic Chemistry II **4 cr.**
Continued study of compounds of carbon. Three hrs. lecture, one 3-hr lab. Spring. *Prerequisite: CHEM 301 or equivalent.*

CHEM 304 Computational Techniques in Chemistry **2 cr.**
Introduction to and application of the fundamental methods, tools and techniques essential to solve chemical problems. Regular topics include statistical, mathematical and computational tools; data analysis, and use of chemical sources. Additional topics explored will augment student needs and supplement area of current interest in chemistry. One hour lecture, one 2-hr lab. Fall. Credit cannot be earned for both CHEM 300 and 304. *Prerequisites: CHEM 201 and 202 or equivalent, or permission of the instructor. Tech. fluency.*

CHEM 305 Research Methods in Chemistry **3 cr.**
Problem solving in organic synthesis. Advanced synthesis, purification and product analysis techniques using modern methods and instrumentation. Searching and critically reading scientific literature. Analysis of safety issues and environmental impact. Spring. Two 3-hr. integrated lecture and lab. *Prerequisite: CHEM 301. Corequisite: CHEM 302.*

CHEM 320 Quantitative Analytical Chemistry **4 cr.**
Theory, methods, and treatment of data pertaining to chemical analysis. Gravimetric, volumetric, potentiometric, electroanalytical, and spectrophotometric applications in the laboratory. Three hrs. lecture, one 3-hr lab. Fall. *Prerequisites: CHEM 201 and 202; MATH 120 or equivalent. Corequisite: PHYS 215 or equivalent, or permission of instructor.*

CHEM 411 Advanced Inorganic Chemistry **4 cr.**
Covers the application of symmetry operations and group theory in order to elucidate the bonding and spectroscopy of transition metal complexes. Selected topics in inorganic reaction mechanisms, photochemistry, catalysis and bio-inorganic chemistry will then be examined using these theoretical approaches. Three hrs. lecture, one 3-hr. lab weekly. Spring, even-numbered years. *Prerequisite or corequisite: CHEM 441 or permission of instructor.*

CHEM 420 Environmental Chemical Analysis **4 cr.**
Explores applications of wet chemical, electroanalytical (potentiometric and amperometric), spectroscopic (UV-Vis, spectrofluorometry and AA) and chromatographic (HPLC, GC, GCMS, TLC) techniques for standard and trace analyses of water, soil, and tissue materials. Emphasis on application of standard protocols, development of experimental technique and sample preparation. Two 3 hr. lectures/lab. Spring, even-numbered years. *Prerequisites: CHEM 201 and 202.*

CHEM 421 Instrumental Analysis **4 cr.**
Theory and applications of modern instruments for chemical analysis. Electronics, spectroscopic, electrochemical, and chromatographic techniques. Laboratory use of NMR, IR, UV, AA, and GC instruments. Three hrs. lecture, one 3-hr. lab. Spring. *Prerequisite: 16 cr. in chemistry including CHEM 320, 441, and 445, or permission of instructor.*

CHEM 425 Pharmacological Ethnobotany **3 cr.**
Study of the basic principles of pharmacology with particular emphasis on drugs of botanical origin. Three hours lecture. Spring, even numbered years. *Prerequisite: CHEM 302.*

CHEM 438 Advanced Organic Chemistry **3 cr.**
Structure and bonding in organic compounds, reactivity, mechanisms of reactions, and application to reaction types. Three hrs. lecture. Spring, odd-numbered years. *Prerequisites: CHEM 301 and 302.*

CHEM 441 Physical Chemistry Lecture I **3 cr.**
Theory and applications of the principles of physical chemistry. Equilibria, gas laws, thermodynamics, electrochemistry, structures, and properties. Three hrs. lecture. Fall. *Prerequisites: 16 cr. in Chemistry from the following: CHEM 201, 202, 301, 302, 320; MATH 238; and PHYS 215 and 216 or equivalent or permission of instructor.*

CHEM 442 Physical Chemistry Lecture II **3 cr.**
Quantum theory, statistical thermodynamics, chemical dynamics, spectroscopy, and structures. Three hrs. lecture. Spring. *Prerequisite: CHEM 441.*

CHEM 445 Physical Chemistry Laboratory I **1 cr.**
Experimental physical chemistry. One 3-hr. lab. Fall. *Prerequisite or corequisite: CHEM 441.*

CHEM 446 Physical Chemistry Laboratory II **1 cr.**
Continuation of CHEM 445. One 3-hr. lab. Spring. *Prerequisite or corequisite: CHEM 442.*

CHEM 455 Biochemistry I **3 cr.**
The chemistry and metabolism of biological compounds, biochemical thermodynamics, enzyme mechanisms, and kinetics. Three hrs. lecture. Fall. *Prerequisites: CHEM 301 and 302; BIOL 149 or permission of the instructor.*

CHEM 456 Biochemistry Laboratory **3 cr.**
Qualitative and quantitative laboratory experiments on the nature and properties of biological materials. Two three-hr. labs. Spring. *Prerequisite or corequisite: CHEM 455.*

CHEM 457 Biochemistry II **3 cr.**
A continuation of Biochemistry I. Metabolic processes and their conservation among widely divergent organisms. Cell processes, their interrelation and regulation. Biochemical techniques and their applications to a variety of current biological problems. Three hrs. lecture. Spring. *Prerequisite: CHEM 455 or equivalent.*

CHEM 460 Environmental Chemistry **3 cr.**
An investigation into the chemical nature of the environment. Development of the chemical interactions found in the atmosphere, hydrosphere, lithosphere, and biosphere. Energy and energy usage also discussed. Three hrs. lecture. Spring, odd-numbered years. *Prerequisites: CHEM 201, 202 and any of the following: BIOL 430, GEOG 432, CHEM 320 or 420.*

CHEM 490 Selected Topics in Chemistry **1 to 3 cr.**
Specialized topics such as theoretical organic chemistry, spectroscopy, photochemistry, quantum chemistry, or stereochemistry. Repeatable for a maximum of 6 credits. Variable. *Prerequisite: 24 credits in chemistry or permission of instructor.*

CHEM 491 Seminar in Chemistry **1 cr.**
Current topics in chemistry presented by students, faculty, and invited guests. One period weekly. Required for majors. Fall. *Prerequisite: junior or senior standing.*

CHEM 492 Capstone Experience **1 cr.**
An integrated senior-year experience that requires students to use their accumulated skills, knowledge and experiences to present their own research and a portfolio demonstrating important laboratory skills. Required for all Chemistry Majors. Every semester. *Prerequisites: senior status, CHEM 491 and CHEM 493 or permission of instructor.*

CHEM 493 Advanced Chemical Research **1 to 8 cr.**
Original student investigations in analytical, inorganic, physical, organic, and biochemistry involving both library and laboratory work, planned and executed under faculty guidance. A formal, publication-quality report and a seminar presentation are required. Research projects must be approved by the department and the instructor prior to registration in the course. Repeatable for a maximum of 8 credits. *Prerequisite: CHEM 441, junior standing in chemistry, and permission of department chair.*

CHEM 495 Internship in Chemistry **1 to 6 cr.**
Guided work experience. Work must be directly related to academic program. Grade P/F. Variable. *Prerequisites: C or better in Organic Chemistry I (CHEM 301); in good academic standing; submission of Agreement Form to Department Chair prior to registering, departmental approval. May not be used to satisfy the requirements for a minor in chemistry.*

CHEM 499 Special Problems in Chemistry **1 to 6 cr.**
Methods and techniques of basic research. Repeatable for a maximum of 6 credits. Every semester. *Prerequisite: permission of department chair.*

Communication Studies

CMST 100 Communication Practicum **½ to 1 cr.**
Entry level work experience in applying communication theory. Opportunities announced in undergraduate course schedule every semester. Repeatable for maximum of 4 credits; may not be applied to fulfillment of major requirements. Variable. *Prerequisite: permission of instructor.*

CMST 102 Introduction to Human Communication **3 cr.**
Fundamental theory and practice of human communication in dyadic, small-group, and public situations. Every semester.

CMST 112 Honors: Introduction to Human Communication **3 cr.**
Fundamental theory and practice of human communication in dyadic, small-group, and public situations. Student-led discussions, activities. Variable. *Prerequisite: admission to Honors Program or written permission of instructor.*

CMST 122 Introduction to Public Speaking **3 cr.**
Introduction to, and guided application of, basic principles which underlie effective public speaking and listening in informative, persuasive, and ceremonial speeches. Spring.

CMST 132 Introduction to Interpersonal & Small Group Communication **3 cr.**
Development of critical thinking, problem-solving, and relational skills in one-on-one and small group settings. Fall, even-numbered years.

CMST 215 Small Group Communication **3 cr.**
Principles and practice of communication in small, task-oriented groups. Interaction of task and social dimensions. Problem-solving groups and decision-making principles and methods. Spring.

CMST 225 Interviewing **3 cr.**
Communication in informational, appraisal, employment, persuasive and research interviews. Focuses on selecting and structuring questions to achieve specific objectives and on strategies of collecting, analyzing and reporting qualitative data for research. Fall. *Prerequisite: CMST 102/112.*

CMST 300 Interpersonal Communication **3 cr.**
Study of the face-to face dyad as the fundamental human communication relationship. Implications for other communication modes and settings. Fall. *Prerequisite: CMST 102/112 or CMST 132 or permission of instructor.*

CMST 302 Argumentation and Advocacy **3 cr.**
Analysis, construction, and communication of logical arguments in a variety of decision-making contexts. Spring. *Prerequisite: CMST 102/112 or CMST 122 or permission of instructor.*

CMST 312 Language Behavior and Communication **3 cr.**
Processes of human language that enhance or limit thought and expression; development of language and symbolizing; relationship of thought to language; effects of language behavior. Spring. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 322 Presentational Communication **3 cr.**
Theory and practice of orally presenting ideas to reach audience-centered goals. Use of technology in activities common to communication-related careers. Spring. *Prerequisites: CMST 102/112 or CMST 122, or permission of instructor.*

CMST 335 Organizational Communication **3 cr.**
Theory, practices and analysis of communication in the context of complex organizations. Agendas, briefings, meetings, conferences, presentations. Assessment and intervention techniques. Fall. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 345 Conflict Management **3 cr.**
Examines the normal, inevitable nature of conflicts with strategies for managing and resolving conflicts in interpersonal, community, organizational, and global contexts. Spring. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 350 Intercultural Communication **3 cr.**
Explores concepts, theories, and communication skills relevant to understanding and managing cross-cultural conflicts in interpersonal, organizational, regional, and global contexts. Analyzes and develops skills needed to open channels of communication between and among people of diverse backgrounds as students gain an experiential understanding of the interconnections between communication and culture. Fall. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 355 Political Communication **3 cr.**
Overview of the role of communication in contemporary political life. Political communication theories, political campaign communication, media and political communication, propaganda and the role of political communication in promoting a deliberative democracy. Variable. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 422 Seminar in Rhetorical Criticism **3 cr.**
Criteria and methods of rhetorical analysis of significant public discourse and cultural artifacts. Application to traditional and contemporary modes of public communication. Fall, even-numbered years. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 451 Seminar in Communication Theory **3 cr.**
Examination of classical and contemporary concepts and methods by which the human communication process is explained. Application to realistic settings. Fall. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 485 Issues and Responsibilities of Communication **3 cr.**
Study of how free speech functions in relation to communication in the United States and the ethical responsibilities of communicators in interpersonal, public, artistic and professional situations. Fall. *Prerequisite: CMST 102/112 or permission of instructor.*

CMST 490 Special Topics in Communication Studies **3 cr.**
Study, research or applied experience related to an announced selected topic. Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: permission of instructor.*

CMST 492 Internship Project **3 cr.**
Academic component of internship experience, in conjunction with CMST 495. Graded A through F. Summer. *Corequisite: CMST 495. Prerequisites: CMST 102/112, CMST 335, CMST 451 and one additional 3-credit CMST course, plus permission of instructor. Capstone.*

CMST 494 Communication Studies Practicum **1 to 3 cr.**
Supervised field experience for Communication Studies majors. Participation in the communication operations of a commercial, governmental, or educational organization. Repeatable for maximum of 3 credits. Every semester. *Prerequisites: CMST 102, CMST 335, CMST 451 and one additional 3-credit CMST course, plus permission of instructor. Capstone.*

CMST 495 Internship in Communication **6 or 12 cr.**
Experiential component of internship: guided work experience directly related to student's academic program. Full-time interns register for 12 credits in 495, 3 credits in 492, and may not enroll in any other courses. Part-time interns must register for 6 credits in 495 and 3 credits in 492. Graded P/F. Summer. *Prerequisites: Junior/Senior status, not on probation; declared major in communication studies, minimum 12 cr. in communication studies, and 2.5 GPA in major; Internship Agreement Form approved by department internship director before registering.*

CMST 499 Directed Study **1 to 6 cr.**
Intensive study through faculty-directed projects or papers. Hours arranged. Variable. *Prerequisite: permission of Department Chair.*

Computer Science

COSC 100 Introduction to Computer Science 3 cr.
A survey of the historical, technological, and societal aspects of computing with a practical component involving contemporary software applications. Topics include past and future computing, hardware, software, computer systems, data representation and processing, and social and ethical concerns of computing. Practical applications include word processors, spreadsheets, graphics packages, Email, Internet, and web page development basics. Every semester. *Tech. Fluency.*

COSC 101 The Discipline of Computer Science 3 cr.
Survey of the discipline of computer science covering history, hardware development, number systems, Boolean logic, algorithm development, programming languages, computability, artificial intelligence, introduction to programming, social implications, and ethics. Every semester. *Tech. Fluency*.

COSC 102 Foundations of Computer Science 4 cr.
Introduction to the foundations of computer science.Topics include memory addressing, computer functions, architectures found in computer science, digital logic circuits, correctness of computer algorithms, finite-state automata, computability, recursion, and O-notation and efficiency of algorithms. Three hrs. lecture, 2 hrs. lab. Every semester. Prerequisite: Level III or above on the mathematics placement test, or a Level II mathematics course.

COSC 110 Honors: Introduction to Computer Science 3 cr.
A survey of the historical, technological, and societal aspects of computing with a practical component involving contemporary software applications and a programming component using a modern, high-level language. Topics include past and future computing, hardware, software, algorithms, computer systems, data representation and processing, and social and ethical concerns of computing. Practical applications include word processors, spreadsheets, programming languages, graphics packages, Email, Internet and Web page development basics. Credit cannot be earned for both COSC 100 and COSC 110. Fall. *Prerequisite: acceptance into the Honors Program or permission of instructor*. *Tech. Fluency.*

COSC 120 Introduction to Cyberspace 3 cr.
Survey of Cyberspace including all Internet services, communications and networking, Internet protocols, file types, multimedia and a summary of Web programming techniques. The practical component covers e-mail, chat, teleconferencing, file transfer, newsgroups, mailing lists, and the World Wide Web. For a semester project, you will search for and develop a basic Web site presenting Internet resources in your major discipline; this site should be a valuable personal reference that can be updated throughout your education and career. Every semester.

COSC 130 Introduction to Programming 3 cr.
Introduction to visual object-oriented computer programming; development of software stages, using Universal Modeling Language (UML); object-oriented concepts including object representation, and modularization. Every semester.

COSC 220 Introduction to Software Applications 3 cr.
Survey of hardware, introduction to software used in business applications, microcomputer operating system, graphics, word processing, spreadsheet, database management systems, and network communication software for microcomputers. Every semester. *Prerequisite: Grade of C or better in COSC 100 or COSC 110.*

COSC 240 Computer Science I 4 cr.
Introduces the fundamental concepts of programming: Simple data types, control structures, array and string data structures, algorithms, debugging techniques and the social implications of computing. Emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that supports the object-oriented paradigm. Three hours lecture; two hour lab. Every semester. Credit may not be earned for both COSC 200 and COSC 240. *Prerequisites: Grade of C or better in COSC 101* ***and*** *test at level 3 or above on mathematics placement test* ***or*** *grade of C or better in MATH 102* ***or*** *corequisite enrollment in MATH 102.*

COSC 241 Computer Science II 4 cr.
Continues introduction to the methodology of programming from an object-oriented perspective. Design and implementation of data structures used in programming such as linked lists, stacks and queues. Internal sorting and searching. Recursion. Performance analysis of algorithms. Three hours lecture; two hour lab. Every semester. Credit may not be earned for both COSC 201 and COSC 241. *Prerequisite: Grade of C or better in COSC 240 and corequisite of COSC 102.*

COSC 300 Structured Systems Analysis and Design 3 cr.
Analysis and design of information processing systems. Topics include system development life cycle: study phase, design phase, development phase, operation phase. Student will design and analyze a simple system. Spring. *Prerequisite: Grade of C or better in COSC 240 or grade of C or better in ITEC 315.*

COSC 305 Computer Ethics 3 cr.
Ethical issues related to computing. Includes topics such as responsibility of the computer professional, computerized crime, technology and employment, equitable access to computing, national databases and privacy, software ownership, and responsibilities of the computing profession. Every semester. *Prerequisite: Grade of C or better in COSC 240; or grade of C or better in COSC 100/110 or COSC 101 and a grade of C or better in COSC 130.*

COSC 310 Data Structures and Algorithm Analysis 3 cr.
Design and implementation of intermediate and advanced data structures and a rigorous introduction to the asymptotic analysis of algorithms. Topics include Huffman coding trees; binary search trees; splay trees; height-balanced binary search trees; general trees; graphs; hash tables; skip lists; multilists; omega, theta, and omicron notation; and limits to computation. Research paper and presentation required. Fall. *Prerequisites: MATH 236 and a grade of C or better in COSC 241.*

COSC 320 Business Programming 3 cr.
Design and implementation of business programming using COBOL. Writing programs to generate reports from sequential data files. Report formatting and paging techniques; edited PIC clauses; control breaks, sorting table and table processing, sequential, indexed, and relative files. Every semester. *Prerequisite: Grade of C or better in COSC 241.*

COSC 325 Software Engineering 3 cr.
Techniques and methodologies of software engineering. Topics include quality assurance, software protection and security. Every semester. *Prerequisite: Grade of C or better in COSC 241.*

COSC 330 Web Design and Development 3 cr.
A practical study of the design and development of Web sites, covering design principles, authoring applications, authoring languages, hypermedia, techniques for user interactivity, and Web programming. The practical component gives hands-on experience with each of these topics and introduces scripting with JavaScript; these lab exercises provide the expertise to complete, as a course project, a Web site presenting an advanced aspect of Web technology that the student researches. Every semester. *Prerequisite: Grade of C or better in COSC 120 or permission of the instructor.*

COSC 331 Fundamentals of Computer Networks 3 cr.
Introduction to computer networking using TCP/IP protocol suite. Topics include application layer, transport layer, network layer, data link layer, physical layer, and socket programming. Every semester. *Prerequisite: COSC 241.*

COSC 335 Advanced Topics in Computer Networks 3 cr.
Introduction to advanced concepts in computer networks. Topics include wireless and mobile networks, multimedia communication, network security, network management, and quality of service. Fall. *Prerequisite: Grade of C or better in COSC 331.*

COSC 345 The Internet and Multimedia Communications 3 cr.
Introduction to protocols and applications of multimedia communications. Topics include multimedia networks, compression methods, network protocols, end to end multicast, and multimedia application. Variable. *Prerequisite: Grade of C or better in COSC 331.*

COSC 350 Low-Level Programming Concepts 3 cr.
Introduction to assembly language programming and to the architecture of the computer as seen from the programmer's point of view. Topics include the virtual machine concept, data representation, Boolean operations, the instruction execution cycle, memory management, integer and floating-point arithmetic, low-level procedures, interrupt handling, instruction encoding, and the high-level language interface. Every semester. *Prerequisite: Grade of C or better in COSC 240.*

COSC 365 Digital Logic 4 cr.
Basic switching theory. Design and analysis of combinational logic circuits and synchronous sequential systems. Minimization techniques, Boolean algebra, Karnaugh maps, and number systems. Programmable logic and basic computer architecture. Register transfer language. Memory decoding, microprogramming, and bus structure and operation. Detailed study of an actual simple minicomputer or microcomputer system. Every semester. *Prerequisite: Grade of C or better in COSC 241. COSC 350 recommended.*

COSC 380 Computer-Based Information Systems 3 cr.
Computer information systems from a system planning perspective. Topics include digital communication evaluation, distributed resources, distributed processing and decision-making models. Several case studies are analyzed. Fall. *Prerequisite: Grade of C or better in COSC 240.*

COSC 390 Topics in Modern Programming Languages 1 to 3 cr.
A modern programming language will be covered. Topics include the syntax and semantics of the language as well as the language programming environment. Example programs will deal with applications particularly suited to the chosen language. Students will be required to design and implement a major programming project. Variable. *Prerequisite: Grade of C or better in COSC 241.*

COSC 394 Field Experience for Non-Majors 3 cr.
Work experience in industry, government, or small business providing opportunity for practical application of academic training in computer/information science. Course requirements: (1) minimum of 90 hours of field experience; (2) written report and oral presentation. Previous work experience may not be substituted. May not be applied toward major in Computer Science or Information Systems. Every semester. *Prerequisites: junior or senior standing and completion of COSC 240 with a grade of C or better.* DEPARTMENT APPROVAL REQUIRED PRIOR TO REGISTERING.

COSC 415 Computer Interfacing 3 cr.
Basic digital computer interfacing, combining digital electronics, programming, and computer architecture. Topics include transducers, electronic amplification, D/A and A/D conversion, data sampling, data storage and retrieval, laboratory exercises in discrete and integrated software, survey of commercially available interface devices. Two hrs. lecture and 3 hrs. lab per week. Variable. *Prerequisites: PHYS 216 or PHYS 262 and PHSC 315 or PHYS 332, grade of C or better in COSC 240, or permission of the instructor. Also offered as PHYS 415.*

COSC 420 Robotics and Computer Control 3 cr.
Introduction to the field of robotics: applications, safety, sensors, Robotics Languages Model for Computer Aided Design (CAD), speech recognition and generation. Integration of robots with artificial intelligence. Variable. *Prerequisite: PHYS 215 or PHYS 261, Grade of C or better in COSC core classes and permission of the instructor.*

COSC 431 Secure Computing 3 cr.
Topics include elementary cryptography, program security, security in general-purpose and trusted operating systems, database security, network security, security administration, and legal/privacy/ethical issues in computer security. Variable. *Corequisite: COSC 460.*

COSC 435 Network Implementation and Testing 3 cr.
Introduction to implementation and testing of networks. Topics include OSI layers, network topologies, LAN technologies, internetworking, network operating systems, and network file system. Variable. *Prerequisites: Grade of C or better in COSC 331 and COSC 365.*

COSC 440 Database Management Systems 3 cr.
Introduction to database management systems. Topics include database design, database models such as entity-relationship and normalization. Practical use of data definition languages and data manipulation language of a commercial database management system such as Oracle. Variable. *Prerequisite: Grade of C or better in COSC 241.*

COSC 444 Introduction to Distributed Programming 3 cr.
Introduction to distributed systems implementation using a distributed language. Topics include distributed architecture comparison, overview of distributed languages, creation of several distributed applications. Variable. *Prerequisite: Grade of C or better in COSC 331.*

COSC 445 Network Programming 3 cr.
Introduction to network programming. Topics include computer networks and communication protocols, socket programming, interprocess communication, and network application development. Variable. *Prerequisite: Grade of C or better in COSC 331.*

COSC 450 Programming Language Principles & Paradigms 3 cr.
Features of existing programming languages and underlying concepts. Syntax and semantics, simple statements, grouping of statements, scopes and storage allocations, subroutines. List processing and string manipulation languages. Fall. *Prerequisite: Grade of C or better in COSC 310.*

COSC 455 Artificial Intelligence 3 cr.
An introduction to knowledge representation and inference, logic, semantic networks, frames and rule-based. Natural language processing; pattern recognition, pattern association and computer vision. Variable. *Prerequisite: Grade of C or better in COSC 241.*

COSC 460 Operating Systems Concepts 3 cr.
Process management, scheduling, time slicing, concurrency, mutual exclusion, semaphores, resource management, memory mapping, virtual systems, mass storage, file systems. Case studies of operating systems. Research paper and presentation required. Every semester. *Prerequisite: Grade of C or better in COSC 241 and COSC 365.*

COSC 465 Computer Systems Architecture 3 cr.
Architecture of large computing systems. Instruction set architecture and RISC. Design of high-speed arithmetic units, I/O subsystems, DMA, and channels. Interrupt structures. Horizontal vs. vertical microprogramming. Memory system hierarchy with emphasis on cache, virtual memory, and interleaving. Introduction to parallel processing and advanced architectural trends. Variable. *Prerequisite: Grade of C or better in COSC 365.*

COSC 470 Compiler Design and Implementation 3 cr.
A detailed study of the concepts and techniques used in design and construction of a compiler. Topics include: lexical analysis, syntactic and semantic analysis, intermediate code generation, final code generation, and optimization techniques. Each student will be required to design and implement a functional compiler or interpreter for a given language. Spring. *Prerequisites: Grade of C or better in COSC 310 and COSC 365.*

COSC 475 Interactive Computer Graphics 3 cr.
Concepts of computer graphics. Terminology and programming primitives, raster vs. vector hardware, interaction devices, software packages, geometrical transformations, two-and three-dimensional viewing, hidden line and surface removal, object hierarchy. Variable. *Prerequisite: Grade of C or better in COSC 241.*

COSC 480 Knowledge-Based Systems 3 cr.
Concepts of knowledge-based systems with an emphasis on expert systems. Topics include production systems, building of knowledge-based systems and future trends with expert systems. Variable. *Prerequisite: Grade of C or better in COSC 241.*

COSC 485 Introduction to the Theory of Computation 3 cr.
Basic theoretical principles embodied in formal languages, automata, computability, and computational complexity. Emphasis is placed on developing formal descriptions of computers and computational processes, and practical implications of theoretical results. Variable. *Prerequisites: Grade of C or better in COSC 310 and COSC 365.*

COSC 488 Information Technology Mgmt. Portfolio Capstone0 cr.
Creation of an information technology management portfolio consisting of best examples of projects, programs, and research papers that demonstrate achievement of the established learning goals for this major. Every semester. *Prerequisites: 90 credits and completion of required FSU major courses.*

COSC 489 Capstone Course 1 cr.
Creation of professional vita, formation of portfolio consisting of student's best examples of programs and research papers. Amalgamation of curricular concepts into a unified entity. Every semester. *Prerequisites: Senior standing and completion of all core courses and grade of C or better in at least two required advanced courses.*

COSC 491 Seminar in Computer Science **1 to 6 cr.**
Group study of advanced topics under faculty supervision; up to 3 credits may apply to major or minor in Computer Science. Repeatable for maximum of 6 credits if topics are substantially different; up to 3 credits count toward major or minor. Variable. *Prerequisites: Grade of C or better in core courses and written permission of faculty supervisor. DEPARTMENTAL APPROVAL REQUIRED PRIOR TO REGISTERING.*

COSC 494 Field Experience in Computer/Information Science **3 cr.**
Work experience in industry, government, or small business providing an opportunity for practical application of academic training in computer/information science. The course requirements are: (1) A minimum of 90 hours of field experience; (2) A written report describing in detail the work performed in the field in conjunction with an oral presentation to interested faculty and students; (3) A project paper on a topic related to the work experience. Previous work experience may not be substituted for this course. Repeatable for maximum of 6 credits if placement sites are different; up to 3 credits count in major. Every semester. *Prerequisite: junior or senior standing and completion of the core courses in Computer Science with grade of C or better. DEPARTMENTAL APPROVAL REQUIRED PRIOR TO REGISTERING.*

COSC 499 Individual Problems in Computer Science **1 to 6 cr.**
Individual advanced projects under faculty supervision; up to 3 credits may apply to major or minor in Computer Science. Students must submit a written, clear proposal to faculty supervisor and department. This proposal must be detailed enough to describe topics, time allocation and limitation, objectives, assignments and projects. Repeatable for maximum of 6 credits: up to 3 credits count toward major or minor. Every semester. *Prerequisites: Grade of C or better in core courses and written permission of faculty and supervisor. DEPARTMENTAL APPROVAL REQUIRED PRIOR TO REGISTERING.*

Criminal Justice

CRJU 490 Advanced Topics in Criminal Justice **1-3 cr.**
Selected topics in criminal justice relating to law enforcement or corrections. Does not duplicate any other FSU course. May be repeated for credit if topics are substantially different. Variable. *Prerequisite: POSC 324 or permission of instructor.*

CRJU 494 Field Experience **6-9 cr.**
Guided work experience in a criminal justice agency. Minimum 225 work hours of experience for 6 credits; 339 work hours for 9 credits. Academic component of course consists of at least one writing project and an oral presentation. Variable. *Prerequisite: POSC 324 or course equivalent.*

Dance

You may not receive credit for both a DANC course and the same course formerly labelled PHEC.

DANC 105 Improvisation **2 cr.**
Exploration of spontaneous movement in response to various stimuli in solo and group settings. Two labs/week. Alternate years.

DANC 110 Dance Appreciation **3 cr.**
Dance forms, dance personalities, contemporary trends in dance. Not open to students who have credit for former PHEC 135. Every semester. *GEP Group A.*

DANC 131 Ballet I **1 cr.**
Basic ballet techniques and style. Not open to students who have credit for former PHEC 111. Fall.

DANC 142 Modern I **1 cr.**
Fundamental skills in modern dance. Not open to students who have credit for former PHEC 211. Fall.

DANC 154 Jazz I **1 cr.**
Movement techniques in jazz dance; dance composition and improvisation. Not open to students who have credit for former PHEC 112. Spring.

DANC 209 Dance Composition I **2 cr.**
Exploration of movement materials through short problems dealing with rhythm, space, and dynamics. Two labs/week. *Prerequisite: DANC 105*. Alternate years.

DANC 231 Ballet II **2 cr.**
Intermediate ballet techniques and terminology. Not open to students who have credit for former PHEC 113. Alternate years. *Prerequisite: DANC 131 or permission of instructor*.

DANC 242 Modern II **2 cr.**
Skills in intermediate modern dance. Not open to students who have credit for former PHEC 213. Alternate years. *Prerequisite: DANC 142*.

DANC 254 Jazz II **2 cr.**
Movement techniques, composition and improvisation in the jazz dance style. Not open to students who have credit for former PHEC 114. Alternate years. *Prerequisite: DANC 154 or permission of instructor*.

DANC 255 Dance Company I **3 cr.**
Application of procedures in auditioning, learning choreography, rehearsals, and production of both individual and company dance pieces as a member of FSU Dance Company culminating in public performances. Participation in all rehearsals and performances required. Lecture/Lab. Repeatable for a maximum of 12 credits. Every semester. *Prerequisite: permission of instructor after formal audition.*

DANC 309 Dance Composition II **2 cr.**
The second of two courses in dance composition focusing on developing skill in the creative process. Exploration of more formal elements of composition with an emphasis on form and structure. Two labs/week. Alternate years. *Prerequisite: DANC 209*.

DANC 332 Ballet III **2 cr.**
Study of advanced ballet technique, vocabulary, and style. Two labs/week. Repeatable no more than 4 times for credit. Alternate years. *Prerequisite: DANC 231*.

DANC 342 Modern III **3 cr.**
Advanced modern dance techniques; modern dance styles and personalities. Three labs/week. Not open to students who have credit for former PHEC 236. Alternate years. *Prerequisite: DANC 242*.

DANC 355 Dance Company II **3 cr.**
Application of procedures in auditioning, learning choreography, creating and teaching choreography, rehearsals, and production of both individual and company dance pieces as a member of FSU Dance Company culminating in public performances. All students are required to compose, cast, teach, and rehearse their dance composition for public performance as part of the Dance Company Concert. Student choreographers are required to meet all deadlines established at the start of the course. Participation in all rehearsals and performances required. Lecture/Lab. Repeatable for a maximum of 12 credits. **Every semester.** *Prerequisite: Three credits of DANC 255 and permission of instructor after formal audition*.

DANC 360 Dance Repertory **2 cr.**
A dance repertory workshop for the intermediate/advanced. Lecture/lab. Alternate years. Repeatable no more than 3 times for credit. *Prerequisite: DANC 242 or DANC 231*.

DANC 382 Dance History **3 cr.**
History of theatrical dance in Western Culture and the role of dance in humankind, a thematic approach. Alternate years. *Prerequisite: DANC 110*.

DANC 408 Choreography and Production **3 cr.**
Procedures for choreographing, producing, and directing dance productions. Not open to students who have credit for former PHEC 431. Alternate years. *Prerequisite: Two credits in dance or permission of instructor.*

DANC 429 Special Topics in Dance **1 to 3 cr.**
Advanced analysis and practice in dance movement; varying topics. A maximum of six credits combined can be earned in DANC 429 and the former PHEC 429. Repeatable for credit each semester of enrollment. Yearly. *Prerequisite: 2 credits in dance technique or permission of instructor.*

DANC 442 Modern IV **3 cr.**
An advanced/professional dance technique level in modern dance based on an eclectic fusion of movement vocabulary which has evolved from the early modern dance heritage with the inclusion of the instructor's own personal aesthetic. Three labs/week. Yearly. Repeatable no more than 2 times for credit. *Prerequisite: DANC 342 or permission of instructor.*

DANC 471 Principles of Teaching Dance **3 cr.**
Theory and practice of dance instruction including methods and materials. Two lectures and one lab/week. Alternate years. *Prerequisite: DANC 231 or DANC 242.*

DANC 479 Teaching Practicum **1 cr.**
Application of theory and skills acquired in DANC 471. The student, under supervision, will teach dance in an authentic setting. Alternate years. *Prerequisite: DANC 471.*

DANC 498 Senior Project **1 cr.**
Individual project performed under the supervision of a faculty member; the culminating experience for the dance major. Offered as needed.

Economics

ECON 200 Basic Economics **3 cr.**
Introductory survey course covering both Macro and Microeconomics designed to provide minimum competence for majors other than business, accounting and economics. Every semester. *GEP Group D.*

ECON 201 Principles of Economics (Macro) **3 cr.**
An introduction to Principles of Economics focusing primarily on the forces determining the economy-wide levels of production, employment, and prices. Examines monetary and fiscal policy and alternative views of how the economy should be managed. Every semester. *GEP Group D.*

ECON 202 Principles of Economics (Micro) **3 cr.**
An introduction to Principles of Economics focusing primarily upon individual consumer and producer decision making behavior in various organized market structures; the price system, market performance, efficiency and government policy. Every semester. *Prerequisite: ECON 201/211.*

ECON 211 Honors: Principles of Macroeconomics **3 cr.**
An introduction into the forces at work in the national economy including income, employment, and the monetary system. A variety of written research assignments on current topics in macroeconomics required. Credit cannot be earned for both ECON 201 and 211. Fall. *Prerequisite: acceptance into the Honors program or permission of the instructor. GEP Group D.*

ECON 212 Honors: Principles of Microeconomics **3 cr.**
Examines markets, consumer behavior, market structures, resource pricing, income distribution, and general equilibrium. Spring. *Prerequisites: ECON 201 or 211.*

ECON 300 History of Economic Thought **3 cr.**
The historical evolution of economic doctrines from early times to the present; the relation of economics to social issues. Views and significance of major schools of thought. Spring. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 301 Labor Economics **3 cr.**
The theory of labor supply and demand, labor force participation, investment in human capital, compensating wage differentials, government regulation, employment, unemployment, unionism, discrimination, wage-related income transfers and pensions. Spring. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 303 American Economic History **3 cr.**
Development from colonial times to the present. The industrial revolution and the impact of technological change upon such areas as transportation, agriculture, business organization, unions, the banking system, and public policy. Fall, odd-numbered years. *Prerequisites: ECON 200; or ECON 201/211 and ECON 202/212.*

ECON 305 Managerial Economics **3 cr.**
Applications of micro-economic theory to management practices. Topics may include demand estimation and forecasting; production and cost; pricing in various market structures; and special topics in firm decision making. Spring. *Prerequisites: ECON 201/211 and ECON 202/212; and MATH 106 or MATH 220 or MATH 236.*

ECON 306 Money and Banking **3 cr.**
The nature and functions of money, credit, banking, and the Federal Reserve System. Institutions generating the money supply; the influence of monetary and fiscal policies on economic stability and growth. Every fall. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 307 Government, Business, and Public Policy **3 cr.**
Economic aspects of the relation of government and business in the United States; antitrust, economic, and social regulation of business. Spring, even-numbered years. *Prerequisites: ECON 200; or ECON 201/211 and ECON 202/212.*

ECON 309 Comparative Economic Systems **3 cr.**
Analysis of ideology and problems in different economic systems: capitalism, Marxism, and socialism. Comparisons of centrally planned and unplanned economics; free market pricing and direct controls; private enterprise and nationalized industry. Fall, even-numbered years. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 351 Intermediate Macro-Economics **3 cr.**
General theory, both Keynesian and post-Keynesian, of the growth of the economy as a whole. Monetary theory, fiscal policy, and review of macroeconomic issues. Fall. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 352 Intermediate Micro-Economics **3 cr.**
Theory of consumer behavior and demand. Production and cost theory and firm behavior under varying circumstances. Distribution theory. Spring. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 400 International Trade **3 cr.**
An explanation of the pure theory of international trade and its application to trade policy; comparative advantage; gains from trade; tariffs, quotas, and other barriers to trade. Fall. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 401 International Finance **3 cr.**
The theory of international finance and its application to international monetary policy; international monetary and capital movements; the balance of payments and adjustment mechanisms; alternative exchange rate systems. Spring. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 404 Public Sector Economics **3 cr.**
Government taxes and expenditures for economic stability and growth; tax equity, efficiency, and incidence; government services; relationship of monetary and fiscal policies. Spring, odd-numbered years. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 405 Economics of Developing Countries **3 cr.**
Survey of underdeveloped economies. Theories of economic development and their application; appraisal of programs in selected developing countries. Fall, odd-numbered years. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 407 Business Cycles and Forecasting **3 cr.**
Analysis of business conditions and measurement including theories of cycles; problems of data selection, modeling, and estimation; and forecasting. Fall, even-numbered years. *Prerequisites: ECON 351 or permission of the instructor.*

ECON 408 Urban and Regional Economics **3 cr.**
Focuses on applied economic analysis of the regional economy and areas within the regional economy. Techniques introduced include economic base analysis, shift share analysis and input-output modelling. Fall, even-numbered years. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 410 Resource and Energy Economics **3 cr.**
Economic analysis of problems and policies affecting natural resource and energy industries and the related impacts on the environment. Analytical economic framework used to study energy, mineral, forest, and fisheries industries. Fall, even-numbered years. *Prerequisite: ECON 202/212 or permission of the instructor.*

ECON 450 Quantitative Economics **3 cr.**
Introduction to the use of calculus, matrix algebra, LaGrangian constrained optimization and linear programming in economics. Spring. *Prerequisites: ECON 201/211 and ECON 202/212.*

ECON 460 Introduction to Econometrics **3 cr.**
Applies economic theory, mathematics, and statistical techniques for the purpose of testing hypotheses about economic phenomena, estimating coefficients of economic relationships, and forecasting economic events. Fall, odd-numbered years. *Prerequisites: ECON 201/211, ECON 202/212, and MATH 209/219/380.*

ECON 490 Special Topics in Economics **1-3 cr.**
Applications of economic principles to a variety of specialized topics. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisites: ECON 201/211 and 202/212 or permission of instructor.*

ECON 491 Seminar in Economics **3 cr.**
Research papers on a selected theme for critical analysis by members of the seminar. Leadership in discussion expected. Designed primarily for economics majors. Spring. *Prerequisites: ECON 351, ECON 352 and ECON 407 or ECON 460; or senior standing. Capstone.*

ECON 492 Internship Research Paper **3 cr.**
Separately graded academic portion of the internship, required in conjunction with ECON 495. Graded A through F. The entire internship (492 and 495) is for a total of 15 credits for full-time interns and 9 credits for part-time interns. May be counted in the major/minor as an elective. Variable. *Corequisite: ECON 495*.

ECON 494 Field Experience in Economics **3 cr.**
Supervised field experience for Economics majors and minors relating to operations in economic research, business economics, or governmental agencies. A detailed written and oral report on the experience is required. No more than one field experience may be applied towards graduation. Graded A-F. May be counted toward major/minor as an elective. Every semester. *Prerequisites: junior or senior standing; minimum of 12 hours in Economics; approval of the department internship committee*.

ECON 495 Internship in Economics **6 or 12 crs.**
Guided work experience with an academic component. Work must be directly related to academic program. Full-time interns register for 12 credits and may not enroll in any other courses (except 492). Part-time interns register for 6 credits. This experiential component is graded P/F. May not be counted toward major or minor requirements. Variable. *Prerequisites: junior or senior status, in good academic standing; minimum of 12 hours in economics; submission of a completed Internship Agreement Form to the departmental internship director prior to registration. Corequisite: ECON 492.*

ECON 499 Individual Problems in Economics **1-6 cr.**
Individual research and formal report on a major topic not covered in regular course. Proposal must be submitted prior to registration. Variable. *Prerequisites: senior standing, at least 15 hours of economics and consent of department chair.*

Educational Professions

EDUC 100 Career Analysis in Education **1 cr.**
Analysis of education in America and the potential roles to be played both in schools and in the wider community. A preliminary self assessment of how the students' interests and abilities match the demands of the educational profession. Portfolio development. Observations with reflections. Every semester. *Required: Taken prior to admission to Phase I. Recommended: Taken within first 2 semesters at Frostburg State University.*

EDUC 200 Phase I Teaching & Professional Assessment Laboratory **1 cr.**
Through a series of short video-taped teaching sessions, students acquire skill in assessing their own strengths and weaknesses as teachers. Students will write instructional objectives, prepare lesson plans, and teach a series of ten minute lessons to their peers. Includes screening for selected teaching proficiencies. This course is required in all teacher education programs. Graded P/F. Every semester. *Prerequisite: Admission to Phase I. Corequisite: Enrollment in EDUC 202.*

EDUC 201 Students, Teachers, and Learning Environments **3 cr.**
A study of students, teachers, and learning environments including the philosophical and historical foundations of the American educational system. Basis for further study in education including topics on legal and ethical issues and diversity. Controlled observations in educational settings. Every semester. May be taken concurrently with EDUC 200/202. *Prerequisite: completion of 30 hours.*

EDUC 202 Foundations of Learning and Instruction **3 cr.**
The learning and teaching process in the American educational system. Human growth and development of students birth-21; learning theories and styles; instructional strategies and adaptations. Controlled observations in educational settings. Every semester. Concurrent enrollment required in EDUC 200. May be taken concurrently with EDUC 201. *Prerequisite: Admission to Phase I.*

EDUC 210 Educational Psychology **3 cr.**
General principles of the psychology of learning and teaching; emphasis on laws of learning, conditions of learning, efficient learning, improving study habits, diagnosis and evaluation of the learner. Variable.

EDUC 290 Field Experiences in Education **1 to 3 cr.**
Supervised field experiences for teacher education students in school and non-school settings focusing on specific problems identified by students. Repeatable for maximum of 6 credits. Graded P/F. Every semester. *Prerequisite: permission of department chair, with written proposal for a field problem approved prior to registering.*

EDUC 300 Phase II Teaching & Professional Assessment Laboratory **.5 cr.**
Video-taped teaching segments with students in school settings. Skills practice and analysis using various teaching models, classroom management techniques, and assessment practices. Participation in seminars on current topics in education. Screening for selected academic and instructional proficiencies. Graded P/F. Every semester. *Prerequisite: admission to Phase II and concurrent enrollment in Phase II methods and appropriate field work experiences.*

EDUC 346 Educational Technology Lab I **1 cr.**
Experiences and practice in using technology to support any curriculum. Experiences are assimilated into professional practice. Emphasis on use of technology within the context of accomplishing authentic tasks. Every semester. May be satisfied by portfolio and performance assessment examination. *Prerequisite: Phase I admission or permission of department.*

EDUC 354 General Music Methods in the Elementary School **3 cr.**
Music teaching, emphasizing the elementary school level: materials and techniques of instruction for general music classes; general educational theories and their relevance to music education; computer-assisted instruction and integrated technology; facility with accompanying folk instruments; and exposure to the Orff, Kodaly, and Dalcroze approaches to music education. Required in junior year of all students desiring certification in music. *Prerequisite: admission to Phase II of the Teacher Education Program and junior standing in the Music program.*

EDUC 355 General Music Methods in the Secondary School **3 cr.**
Music teaching emphasizing the secondary school level: materials and techniques for general music classes; computer-assisted instruction and integrated technology; facility with accompanying folk instruments; historical and philosophic foundations of music education; and program development and instructional design. Required in junior year of all students desiring certification in music. *Prerequisites: EDUC 354 and admission to Phase II of the Teacher Education Program.*

EDUC 376 Special and Multicultural Education **3 cr.**
Characteristics of exceptional children. Understanding how exceptionalities, American culture, race, ethnicity, gender, socio-economic class, religion, age, language, and intellectual ability influence learning. Historical and legal influences on American schools and community agencies. Applicable teaching methods. Controlled observations included. Every semester. *Prerequisite: Phase I admission.*

EDUC 390 Field Experience in Early Childhood Education 3 cr.
Supervised field experiences for Early Childhood candidates in Head Starts and/or other pre-school settings. Develops knowledge, skills and dispositions of age-appropriate environments. Includes analysis of children's needs and examines and assesses human and curricular environments. Enables candidates to plan physically and psychologically safe, supportive and healthy learning environments in early childhood settings. Includes some class work. Taken for 3 credit hours during Phase I of the ECE/ELEM major's professional sequence. ECE specialization. Graded P/F. Every semester. *Prerequisite: Phase I admission or permission of department.*

EDUC 391 Teaching Internship I: Secondary Education 2 cr.
Initial internship practicum at secondary school level. Joint supervision by school system and university personnel. Some assignments and responsibilities coordinated with concurrent secondary block courses. Minimum length of practicum equal to 30 half-days (120 clock hours). Graded P/F. Fall. *Prerequisites: Successful completion of first semester of Phase II courses and concurrent enrollment in remaining Phase II course requirements.*

EDUC 392 K-12 Field Experience 1 to 2 cr.
Teacher assistantship in elementary and secondary settings. Requires 60 hours of in-school aide experience at each level. Assignments coordinated with other Phase II courses. Graded P/F. *Prerequisite: Phase II admission.*

EDUC 401 Nursery-Eighth Grade Field Experiences I 1½ cr.
Teacher assistantship in N-8 school setting. Requires 90 hours of in-school experience. Assignments coordinated with Block I methods courses. Graded P/F. Every semester. *Prerequisites: Phase II admission and concurrent enrollment in Block I.*

EDUC 402 Nursery-Eighth Grade Field Experiences II 1½ cr.
Teacher assistantship in N-8 school setting. Requires 90 hours of in-school experience. Assignments coordinated with Block II methods courses. Graded P/F. Every semester. *Prerequisites: Phase II admission and concurrent enrollment in Block II.*

EDUC 403 Assessment and Management of Learning 4 cr.
Design, implementation, and use of various assessment instruments. Qualitative analysis of student performance. Assessment of students, instructional activities, and environments. Communication of assessment data. Elements of developmentally appropriate classroom management. Management strategies for student behavior, curriculum, materials, and resources. Every semester. *Prerequisite: successful completion of Block I.*

EDUC 405 Leadership 2 cr.
Educational leadership in schools, communities, and professional organizations. Professionalism emphasized. Last offered Spring 2006. *Prerequisite: Phase III admission.*

EDUC 406 Leadership Seminar 2 cr.
Reflective self and peer evaluation of teaching performance in the classroom as a foundation for exploration of the leadership roles professional teachers are expected to play in the classroom, school, community, and profession. *Prerequisite: Phase III admission, concurrent enrollment in internship.*

EDUC 410 Teacher Intern Seminar: N-8 3 cr.
A study of the research and materials for various models of teaching with the intent of securing objective feedback for making a sophisticated analysis of curriculum impact, teaching methods, and teacher/student interaction. Graded P/F. Every semester. *Prerequisite: Phase III admission.*

EDUC 422 Leadership Seminar: N-8 3 cr.
Educational leadership in schools, communities, and professional organizations. Elements of developmentally appropriate classroom management. Management strategies for student behavior, curriculum, material, and resources. Professionalism emphasized. Every semester, starting Fall 2006. *Prerequisite: Phase III admission. Capstone.*

EDUC 429 The School and Community 3 cr.
Role and participation of the community in public education today. Cooperation between public school and non-school educative agencies in the community. Participation in a field research project required. Variable.

EDUC 430 Desktop Publishing for Educators 3 cr.
Use a computer for publishing materials. Learn fundamental principles of publishing design. Learn how to produce published materials that can be used in the classroom. Design desktop publishing projects that will involve K-12 students. Plan for integration of desktop publishing into the curricula. Variable.

EDUC 432 Hypermedia & Multimedia: Educational Applications 3 cr.
Learn about hypermedia and multimedia. Become familiar with using a computer for hypermedia applications. Work with text, graphics, video, and sound to create presentations and information exploration materials which incorporate various approaches to teaching and learning. Design hypermedia projects that will involve K-12 students. Plan for integration of hypermedia into the curriculum. Variable.

EDUC 434 LOGO: Ed. Programming & Instructional Techniques 3 cr.
Learn about Logo as a language for learning about computers, computer programming, and thinking. Emphasis will be on learner-controlled and learner-directed explorations of intellectual problems of interest. Variable.

EDUC 441 Classroom Discipline Strategies 3 cr.
For undergraduates who have had aiding or teaching internship and for practicing teachers. Emphasis on understanding child behavior in school. Democratic classroom setting. Variable. *Prerequisite: Phase II completion.*

EDUC 444 Cooperative Learning Workshop: Level I 3 cr.
A study of cooperative learning through an analysis of the underlying theory and observation; planning, and implementation of cooperative learning activities. Summer.

EDUC 445 Middle School Curriculum and Methods 3 cr.
The middle school movement; the middle school student and curriculum; teaching in the middle school; middle school organization. Every semester. *Prerequisite: Phase II admission or permission of Department Chair.*

EDUC 446 Using Databases for Critical Thinking 1 cr.
Use databases in learning to organize, access, manipulate, and evaluate information. Learn to find and interpret information, find patterns, and make inferences based on established patterns. Develop techniques for using databases in elementary and secondary curricula. Variable.

EDUC 447 Educational Technology Lab II 1 cr.
Experiences and practice in using technology to support any curriculum. Experiences are assimilated into professional practice. Emphasis on use of technology within the context of accomplishing authentic tasks. Extension and refinement of Lab I experiences. Every semester. *Prerequisite: Phase II admission.*

EDUC 448 Educational Technology Lab III 1 cr.
Experiences and practice in using technology to support any curriculum. Experiences are assimilated into professional practice. Emphasis on use of technology within the context of accomplishing authentic tasks. Extension and refinement of Lab II experiences. Every semester. *Prerequisite: appropriate phase admission and successful completion of Educational Technology Lab II.*

EDUC 450 Art Education Methods for the Secondary Teacher 3 cr.
Curriculum, goals, content and organization of secondary art education. Theories of visual development and artistic behavior in age-appropriate students; materials, resources and processes for teaching art; classroom management, and technology applications. Two hrs. lecture, 2 hr. lab. Credit cannot be earned for both EDUC 450 and EDUC 308. Fall. *Prerequisites: admission to Phase II or permission of the Department Chair; EDUC 392 and EDUC 451 recommended concurrently.*

EDUC 451 Art Education Methods for the Elementary Teacher 3 cr.
Curriculum, goals, content, and organization of elementary art education. Theories of visual development and artistic behavior in age-appropriate students; materials, resources and processes for teaching art; classroom management and technology applications. Two hrs. lecture, 2 hr. lab. Credit cannot be earned for both EDUC 451 and EDUC 309. Fall.

Prerequisites: admission to Phase II or permission of the Department Chair; EDUC 392 and EDUC 450 recommended concurrently.

EDUC 454 Microcomputer Application in Education 3 cr.
Introductory course to familiarize educators with microcomputers. Microcomputers as a teaching tool; innovations, systems of instruction, model programs, matching software to school children's needs. Every semester. *Prerequisite: Phase II admission or permission of instructor.*

EDUC 490 Special Topics in Education 1/2 to 6 cr.
Special workshop on a current topic, as arranged. Repeatable for maximum of 6 credits if topics are substantially different.

EDUC 497 or PHEC 497 Teaching Internship: K-12 Programs 12 cr.
Supervised practicum in teaching in elementary and secondary schools. Joint supervision by school system and university personnel. Daily, full day for one semester. Graded P/F. Every semester. *Prerequisite: Phase III admission or permission of Department Chair. PHEC 497 HPE Capstone.*

EDUC 499 Individual Problems in Education 1 to 3 cr.
Independent study under supervision. Research paper on special topic. Requires proposal approval through Dept. of Educational Professions prior to registering. Repeatable for maximum of 6 credits. Every semester, summer.

Early Childhood Education

ECED 150 Early Childhood Foundations 3 cr.
Introduction to profession of early childhood education. Includes growth and development of young children. Examines historic, theoretical and philosophical underpinnings of current early childhood programs. Explores play, learning environments and curriculum. Looks at the context of families and communities. Requires a reflective journal, field observations, and portfolio development. Every semester. *Taken Prephase I before ECED 293 in the ECE/ELEM major's professional sequence as part of the ECE specialization.*

ECED 293 Early Childhood Learning Environment, Materials & Methods 3 cr.
Examination and assessment of developmentally appropriate environments, materials and methods for young children birth to age eight. Includes planning of physically and psychologically safe and healthy learning environments. Taken during Prephase I of ECE/ELEM major's professional sequence as part of ECE specialization. Every semester. *Prerequisite: ECED 150 and declaration of ECE/ELEM major.*

ECED 431 Early Childhood Education Curriculum Development, Implementation & Assessment 3 cr.
Philosophy and function of early childhood education curriculum. Analysis of children's needs; planning, implementing, and assessing a balanced program. Taken Phase II Block II of ECE/ELEM major's professional sequence as part of ECE specialization. Every semester. *Prerequisite: Successful completion of ECED 443 or permission of the department.*

ECED 438 Early Childhood Classroom Management 3 cr.
For the early-childhood teacher: advanced teaching skills in nurturing the young child's social experiences, self-discipline, independence, and creativity; arranging play experiences, organizing physical space, communicating with children, child study. Variable.

ECED 442 Administration & Supervision of Early Childhood Programs 3 cr.
Administrative and supervisory responsibilities for the early-childhood educator in providing quality programs for young children. Variable. *Prerequisite: permission of instructor.*

ECED 443 Adults in the Child's World 3 cr.
The early-childhood educator's influence on and collaboration with the child's caregivers; the use of local, state, and national resources to meet child, family, and community educational needs. Taken Phase II Block I of ECE/ELEM major's professional sequence as part of ECE specialization. Every semester. *Prerequisite: Phase II admission or permission of department.*

Elementary Education

ELED 307 Block 1 Clinical & Professional Assessment Component 1 cr.
Supervised assisting at the early childhood, elementary, and middle school levels. Joint supervision by school system and university personnel. Daily, full day clinical experience. Graded P/F. Every semester. *Prerequisite: Admission to Phase II.*

ELED 403 Assessment and Management of Learning 4 cr.
Component course of the 13 credit integrated Block II, Phase II of the elementary teacher education program. Block II courses center on the extension and refinement of basic concepts, skills, and information related to the teaching of mathematics, science, language arts, and social studies. The major program themes of technology, integration, teaming, performance-based instruction, professionalism, diversity, service learning, and career awareness are modeled and utilized as integrating threads. Focuses on the evaluation of students and instructional activities. Every semester. *Prerequisite: Admission to Phase II of the Teacher Education Program and recommendation of Phase I, Block I faculty team.*

ELED 470 General Curriculum 3 cr.
Planning, constructing, and organizing the school curriculum; types of curricula and current applications. Every semester. *Prerequisite: Phase II admission or permission of Department Chair.*

ELED 471 Mathematics Curriculum, Methods & Assessment 3 cr.
Planning, constructing, and organizing curriculum; types of curricula. Methods, materials, content, and assessment for teaching P-8 Mathematics. Every semester. *Prerequisite: admission to Phase II.*

ELED 472 Language Arts Curriculum, Methods & Assessment 3 cr.
Planning, constructing, and organizing curriculum; types of curricula. Methods, materials, content, and assessment for teaching Language Arts. Every semester. *Prerequisite: admission to Phase II.*

ELED 474 Science Curriculum, Methods & Assessment 3 cr.
Planning, constructing, and organizing curriculum; types of curricula. Methods, materials, content, and assessment for teaching P-8 Science. Every semester. *Prerequisite: admission to Phase II.*

ELED 475 Social Studies Curriculum, Methods & Assessment 3 cr.
Planning, constructing, and organizing curriculum; types of curricula. Methods, materials, content, and assessment for teaching P-8 Social Studies. Every semester. *Prerequisite: admission to Phase II.*

ELED 494 Teaching Internship I: N-8 6 cr.
Supervised practicum in teaching at the early childhood, elementary, and middle school levels. Joint supervision by school system and university personnel. Daily, full day clinical experience. When taken during fall semester, includes a one-week beginning of the school year experience. Graded P/F. Every semester. *Prerequisite: successful completion of Block I.*

ELED 495 Teaching Internship II: N-8 Programs 12 cr.
Supervised practicum in teaching at the early childhood, elementary, and middle school levels. Joint supervision by school system and university personnel. Daily, full day clinical experience. When taken during fall semester, includes a one-week beginning of the school year experience. Graded P/F. Every semester. *Prerequisite: successful completion of Internship I and Phase III admission. Capstone.*

Guidance

GUCO 406 Introduction to Guidance 3 cr.
History and philosophy of guidance programs; the role, organization, and methods of guidance. Variable.

Reading

REED 317 Content Area Reading 3 cr.
Identification of the special reading demands in content areas and development of appropriate instructional activities. The reading process as it relates to content area learning. Research, best practices, and instructional strategies. Required for all secondary and K-12 approved programs. Every semester. *Prerequisite: appropriate Phase admission.*

REED 323 Process and Acquisition of Reading 3 cr.
Process of language development, including impact of phonemic awareness, and how the brain responds to reading acquisition. Practical applications of research in language development, acquisition, and use. Understanding of the role of experiential background, prior knowledge, motivation, and personal significance to emerging readers. Every semester. *Prerequisite: Phase I admission.*

REED 416 Reading and Language 3 cr.
Practical applications of research in language development, acquisition, and use. Relevant to all education majors. Every semester. *Prerequisite: Phase II admission.*

REED 418 Reading and Writing Connections 3 cr.
Reading and writing activities in daily instruction. The role and use of authentic assessments in determining student reading performance and selection of materials appropriate to student ability levels. Taken with Secondary Block. Not open to students with credit for former REED 318. Spring. *Prerequisite: Phase II admission.*

REED 420 Assessment for Reading Instruction 3 cr.
Understanding of the use of national, state, local, and classroom reading assessment data to make ongoing instructional modifications as a strategy for prevention and intervention. Understanding of a variety of reading assessments and curriculum adjustments. Communicating assessment data about individual student reading performance to appropriate sources. Every semester. *Prerequisite: successful completion of Block I.*

REED 422 Practicum in Reading Instruction 3 cr.
Laboratory experience in correcting reading problems. Diagnosis and program planning. Tailoring of materials and techniques to the particular child. Variable. *Prerequisite: REED 420.*

REED 425 Materials and Motivations for Reading 3 cr.
Support for long term motivation of developing readers within a framework of inquiry. Experience a variety of texts to be used in classes when reading for literary experience, reading to perform a task, and reading for information. Apply strategies for selecting materials, for retrieving materials, and for evaluating materials. Understanding of accessibility, variety of media, multicultural materials, text features, and oral and written responses to literature. Knowledge of the role of parents in supporting reading programs. Every semester. *Prerequisite: Block II admission or permission of the department.*

REED 440 Children's Literature 3 cr.
Content and form of children's literature in books other than school textbooks. How to evaluate literature and use literary materials in teaching. Variable.
REED 450 Classroom Techniques in Diagnosis & Correction of Reading Difficulties 3 cr.
Lecture and laboratory to diagnose reading difficulties and plan corrective programs using a variety of materials and techniques in tutoring. Summer. *Prerequisite: REED 420 and 422.*

REED 450 Classroom Techniques in Diagnosis & Correction of Reading Difficulties 3 cr.
Lecture and laboratory to diagnose reading difficulties and plan corrective programs using a variety of materials and techniques in tutoring. Summer. *Prerequisite: REED 420 and 422.*

REED 473 Reading Instruction 3 cr.
Knowledge of best practices and instructional strategies which focus on the purposes for reading. How to use a balanced program of phonics, semantics, and syntactics in teaching reading. Methods, materials, and content for teaching reading in grades N-8. Knowledge of early identification and intervention strategies for low achieving readers. Every semester. *Prerequisite: Phase II admission.*

Secondary Education

SCED 410 Secondary Methods and Curriculum 3 cr.
Evolution of the philosophy of secondary education. Current curricula, planning, issues, and instructional methodologies in all secondary teaching areas. Required for secondary education majors. Not open to students with credit for former SCED 310. Spring. *Prerequisite: Phase II admission.*

SCED 411 English in the Secondary School 3 cr.
Subject methods course required for secondary certification in teaching English. Modern trends in curriculum and instruction. Not open to students with credit for former SCED 311. Fall. *Prerequisite: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 414 Mathematics in the Secondary School 3 cr.
Subject methods course required for secondary certification in teaching mathematics. Modern trends in curriculum and instruction. Not open to students with credit for former SCED 314. Fall. *Prerequisite: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 415 Methods of Teaching Modern Foreign Languages 3 cr.
A general methods course for foreign-language majors seeking certification at the secondary level or elementary education majors seeking certification in teaching a language at the elementary level. (Does not certify a secondary language major to teach the elementary level.) Not open to students with credit for former SCED 315. Fall. *Prerequisites: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 416 Business Education in the Secondary School 3 cr.
Methods of teaching business content and skill competencies, organization and evaluation of work experiences, and the leadership role of the teacher in the development of student organizations. Included are: philosophy, aims, purposes and objectives of Business Education; planning, organizing, and evaluating the educational process, facilities and equipment; survey techniques used in business; teacher role in developing attitudes and preparing students for life-long learning. Proficiency in the skill areas required. Credit cannot be earned for both SCED 416 and SCED 316. Fall. *Prerequisites: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 419 Science in the Secondary School 3 cr.
Subject methods course required for secondary certification in teaching science. Modern trends in curriculum and instruction. Not open to students with credit for former SCED 319. Fall. *Prerequisites: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 420 Social Studies in the Secondary School 3 cr.
Subject methods course required for secondary certification in teaching social studies. Modern trends in curriculum and instruction. Not open to students with credit for former SCED 320. Fall. *Prerequisites: Phase II admission or permission of Department Chair; EDUC 391 recommended concurrently.*

SCED 496 Teaching Internship II: Secondary Education 12 cr.
Supervised practicum in teaching at secondary school level. Joint supervision by school system and university personnel. Daily, full day for one semester. Graded P/F. Every semester. *Prerequisite: Phase III admission or permission of Department Chair.*

Special Education

SPED 451 Adapting Instruction in Diverse Classrooms 3 cr.
An understanding of the instructional and social development needs of the disabled and non-disabled students in inclusive classrooms. Special attention to collaboration, technology, legislation, educational programming, instructional strategies, inclusion models, and current research related to the students enrolled in secondary school inclusion programs (middle/senior high school) and K-12 programs. Not open to students with credit for former SPED 361. Every semester. *Prerequisite: Phase II admission.*

SPED 461 Characteristics of Exceptional Children 3 cr.
Etiology, diagnosis, physical, emotional, and social characteristics of exceptional children, including the gifted, retarded, and physically handicapped. Variable.

SPED 462 Intro. to the Education of Exceptional Children 3 cr.
Understanding the educational needs of exceptional children; preventive and remedial education. Variable.

SPED 463 Teaching Children with Special Needs 3 cr.
Observation, identification, and management of children with mild to moderate learning problems. Variable. *Prerequisite: permission of instructor.*

SPED 481 The Gifted Learner 3 cr.
Study of recent research on characteristics, needs, and problems of gifted learners; model programs; future possibilities. Variable. *Prerequisite: PSYC 150 or EDUC 201 or permission of instructor.*

SPED 482 Curriculum for the Gifted Learner 3 cr.
Theoretical and practical approaches to teaching gifted learners; constructing unique plans for each teacher's needs. For those who will deal with gifted learners. Variable. *Prerequisite: at least one course in curriculum.*

Engineering

Engineering Sciences

ENES 099 Introduction to Workshop and Machine Shop 1 cr.
General knowledge of the available resources required for upper level physics and engineering courses. Hands-on and demonstration activities. Strong emphasis on personal safety and procedures while using the department workshop and machine shop space and equipment. One hr. integrated lecture and lab. Fall. Does not count for credit toward the 120 hours required for graduation.

ENES 100 Introduction to Engineering Design 3 cr.
FSU Course. Introduction to the engineering design process, computer software for word processing, spreadsheet, CAD and communication skills. Students work as teams to design and build a project. Two hrs. lecture and two hrs. recitation per week. Every semester.

ENES 102 Statics 3 cr.
FSU Course. The equilibrium of stationary bodies under the influence of various kinds of forces. Forces, moments, couples, equilibrium, trusses, frames and machines, beams and friction. Vector and scalar methods are used to solve problems. Three hrs. lecture and one hr. discussion/recitation per week. Spring. *Prerequisite: MATH 236.*

ENES 219 SolidWorks Essentials 1 cr.
Introduction to SolidWorks mechanical design automation software. Build parametric models of parts and assemblies; make drawings of those parts and assemblies. Fall.

ENES 220 Mechanics of Materials 3 cr.
FSU Course. Stress and deformation of solids-rods, beams, shafts, columns, tanks, and other structural, machine and vehicle members. Topics include stress transformation using Mohr's circle; shear and moment diagrams; derivation of elastic curves; and Euler's buckling formula. Design problems related to this material are given in lab. Fall. *Prerequisites: ENES 102, MATH 237, PHYS 261.*

ENES 221 Dynamics 3 cr.
FSU Course. Systems of heavy particles and rigid bodies at rest and in motion. Force-acceleration, work-energy and impulse-momentum relationships. Motion of one body relative to another in a plane and in space. Two hrs. lecture and two hrs. lab per week. Fall. *Prerequisites: PHYS 261, ENES 102, MATH 237.*

Electrical Engineering

**** Courses marked UMCP Course are offered only for students completing the previous UMCP/FSU collaborative electrical engineering program. A limited selection of UMCP ENEE courses is offered as needed.**

ENEE 114 Programming Concepts for Engineers 4 cr.
FSU Course. Principles of software development, high level languages, compiling and linking, pseudo-code, input/output, data types and variables, operators and expressions, conditionals and loops, functions, arrays, pointers, structure data types, memory allocation, introduction to algorithms, software projects, debugging, documentation. Programs will use the C language. Three hrs. lecture and two hrs. recitation per week. Spring. *Corequisite: ENES 100.*

ENEE 204 Basic Circuit Theory 3 cr.
FSU Course. Basic circuit elements: resistors, capacitors, inductors, sources, mutual inductance and transformers; their I-V relationships. Kirchoff's Laws. DC and AC steady state analysis. Phasors, node and mesh analysis, superposition, theorems of Thevenin and Norton. Transient analysis for first- and second-order circuits. Three hrs. lecture and one hr. discussion/recitation per week. *Prerequisite: PHYS 262. Corequisite: MATH 432.*

ENEE 206 Fundamental Electric & Digital Circuit Laboratory 2 cr.
FSU Course. Introduction to basic measurement techniques and electrical laboratory equipment (power supplies, oscilloscopes, voltmeters, etc.). Design, construction, and characterization of circuits containing passive elements, operational amplifiers, and digital integrated circuits. Transient and steady-state response. This course is prerequisite to all upper level ENEE laboratories. One hour lecture and three hrs. lab per week. Spring. *Prerequisite: ENEE 244. Corequisite: ENEE 204.*

ENEE 241 Numerical Techniques in Engineering 3 cr.
FSU Course. Introduction to error analysis, conditioning and stability of algorithms. Numerical solution of nonlinear equations. Vector spaces and linear transformations. Matrix algebra. Gaussian elimination. LU factorization, matrix inversion. Similarity transformations and diagonalization. Iterative computation of eigenvalues. Interpolation; splines; data fitting. Numerical integration. Three hrs. lecture and one hr. discussion/recitation per week. Fall. *Prerequisite: ENEE 114, MATH 237.*

ENEE 244 Digital Logic Design 3 cr.
FSU Course. Gates, flip-flops, registers and counters. Karnaugh map simplification of gate networks. Switching algebra. Synchronous sequential systems. PLA's. Elements of binary arithmetic units. Three hrs. lecture and one hr. discussion/recitation per week. Fall. *Prerequisite: ENEE 114.*

ENEE 303 Analog and Digital Electronics 3 cr.
UMCP course. Introduction to the conceptual physical operation of PN-junction diodes, MOSFETs and bipolar transistors (BJTs). Large signal terminal characteristics of PN junction diodes, bipolar and MOSFET transistors. Digital electronics is covered at the transistor level including the inverter, NAND and NOR gates. Semiconductor memory. Basic transistor circuit configurations including the BJT common emitter (CE) and common collector (CC) circuits, and the MOSFET common source (CS) and common drain (CD) configurations. DC bias and small signal analysis of BJTs and MOSFETs. Simple multitransistor circuits including: the differential-amplifier and the current mirror. Frequency response of simple amplifiers. Fall. *Prerequisite: A "C" or higher in all 200-level ENEE courses. Corequisite: ENEE 307.*

ENEE 307 Electronics Circuits Design Laboratory 2 cr.
FSU course. I-V properties of diodes and transistors through simple experiments. Analysis, design, and construction of digital and analog electronic circuits at the transistor and integrated circuit levels. Operation and design of relevant multi-transistor circuits. BJT forward active operation by study of CE design, bias and small signal operation. MOS common source operation, study of invertors, NAND and NOR gates. Simulation and analysis of Random Access Memory (RAM). Study of basic transistor configurations and frequency response by building a high-fidelity audio amplifier. Differential amplifiers, active loads, current mirrors, and principles of feedback through the construction of op-amps out of discrete components. Experiments will be tightly aligned to the ENEE 303 lectures. Not open to students who have credit for former ENEE 306. One hr. lecture, three hrs. lab. Fall. *Prerequisite: C or better in all 200-level ENEE courses. Corequisite: ENEE 303.*

ENEE 313 Introduction to Device Physics 3 cr.
UMCP course. Basic physics of devices including crystal structure, fields in solids and properties of electrons and holes including diffusion and energy distributions. Current flow in Si by drift and diffusion, equations of motion of particles, p-n junction, depletion, fields and potentials, depletion and diffusion capacitance, and current flow under forward and reverse bias. Operation of bipolar junction and metal-oxide field effect transistors, their physical structure, operation thresholds, current flow, capacitance and current-voltage characteristics. Spring. *Prerequisites: a "C" or higher in all 200-level ENEE courses.*

ENEE 322 Signal and System Theory **3 cr.**
UMCP Course. Concept of linear systems, state space equations for continuous systems, time and frequency domain analysis of signals and linear systems. Fourier, Laplace and Z transforms. Application of theory to problems in electrical engineering. Fall. *Prerequisites: ENEE 204 and MATH 432 and completion of all lower division technical courses in the EE curriculum*.

ENEE 324 Engineering Probability **3 cr.**
UMCP Course. Axioms of probability, conditional probability and Bayes' rules, random variables, probability distribution and densities, functions of random variables, weak law of large numbers and central limit theorem. Introduction to random processes, correlation functions, spectral densities, and linear systems. Applications to noise in electrical systems, filtering of signals from noise, estimation, and digital communications. Spring. *Prerequisite: ENEE 322 and completion of all lower division technical courses in the EE curriculum.*

ENEE 350 Computer Organization **3 cr.**
FSU course. Structure and organization of digital computers. Registers, memory, control and I/O. Data and instruction formats, addressing modes, assembly language programming. Elements of system software, subroutines and their linkages. Three hrs. lecture and one hr. discussion. Fall. *Prerequisite: ENEE 244 and "C" or better in all 200-level ENEE courses.*

ENEE 381 Electromagnetic Wave Propagation **3 cr.**
UMCP course. The electromagnetic spectrum: Review of Maxwell's equations; the wave equation potentials, Poynting's theorem, relationship between circuit theory and fields; propagation of electromagnetic waves in homogeneous media and at interfaces; transmission line theory, wave-guides, radiation and antennas. Spring. *Prerequisite: PHYS 312 and completion of all lower-division technical courses in the EE curriculum.*

ENEE 408 Capstone Design Project **3 cr.**
Culmination of prior course work in engineering. Utilization of modern design tools and methodologies for the design of components or systems under realistic constraints, with particular emphasis on teamwork and oral/written communication. Areas in which projects are offered include analog and digital electronic circuits, electromechanical systems and devices, control systems, signal processing, and instrumentation. 1.5 hrs. lecture and 3 hrs. lab. Spring. *Prerequisite: permission of department. Repeatable to 6 credits maximum if content differs.*

ENEE 417 Microelectronics Design Laboratory **2 cr.**
FSU Course. Senior class capstone project laboratory. Students design and build fairly sophisticated circuits, mainly composed of discrete transistors and integrated circuits. Students may become involved in various projects designed to require that they synthesize from what they have learned in many of the disciplines in electrical engineering. Students gain hands-on practical experience while learning how to use their knowledge and skills to design and build a device or system. One lecture and three hours of lab per week. Variable. *Prerequisites: ENEE 306 and ENEE 312 and completion of all lower division EE technical courses.*

ENEE 435 Introduction to Wireless Sensor Networks **3 cr.**
Background on networking, range of applications for WSN, various sensors, communication, protocol model, wireless transmission technology for WSN, concept of sensor motes, basic architectural elements, Medium Access Control Protocols, routing protocols, transport protocols, middleware and operating systems for WSN. Variable. *Prerequisites: Senior standing and completion of lower division courses in EE curriculum or permission of instructor.*

ENEE 439 Topics in Signal Processing **1-3 cr.**
FSU Course. Selected topics of current importance in signal processing. For electrical engineering majors only. Variable. Repeatable to up to 6 credits maximum if content differs. *Prerequisite: permission of department and completion of all lower division technical courses in the EE curriculum.*

ENEE 461 Control Systems Lab **2 cr.**
FSU Course. Design criteria, characteristics and limitations of modern control systems. Sensors, feedback, PID Control. Servomechanisms, control of various physical quantities such as temperature, pressure, liquid level, etc. Computer-based process control. Errors in digital control systems. Students will gain hands-on experience through a design project to build and test a feedback control system for a real world application. One lecture and three hours of lab per week. Variable. *Prerequisites: ENEE 206 and ENEE 322 and completion of all lower-division technical courses in the EE curriculum.*

ENEE 475 Power Electronics **3 cr.**
FSU Course. Basic principles of power electronics and its applications. Analytical methods, canonical circuit topologies, fundamentals of power semiconductors, snubbing circuits, drive circuits, and control methods. Variable. *Prerequisite: ENEE 302 and completion of all lower division courses in the EE curriculum.*

Mechanical Engineering

**For course descriptions of elective courses available in mechanical engineering, please refer to the Clark School of Engineering catalog of the University of Maryland, College Park.

ENME 232 Thermodynamics **3 cr.**
FSU Course. Introduction to thermodynamics. Thermodynamic properties of matter. First and second law of thermodynamics, cycles, reactions, mixtures. Variable. *Prerequisites: PHYS 261 and 262.*

ENME 271 Numerical Methods in Mechanical Engineering **3 cr.**
FSU Course. Develop the skills to generate readable, compact and verifiably correct MATLAB scripts and functions to obtain numerical solutions to a wide range of engineering models and to display the results with fully annotated graphics. Learn structured programming. Two lectures and two hrs. lab per week. Spring. *Prerequisite: ENES 221.*

ENME 320 Thermodynamics **3 cr.**
UMCP Course. Properties, characteristics and fundamental equations of gases and vapors. Application of the first and second laws of thermodynamics in the analysis of basic heat engines, air compression vapor cycles. Flow and non-flow processes for gases and vapors. Spring. *Prerequisites: PHYS 261, PHYS 262, and MATH 237.*

ENME 331 Fluid Mechanics **3 cr.**
FSU Course. Principles of fluid mechanics. Mass, momentum and energy conservation. Hydrostatics. Control volume analysis. Internal and external flow. Boundary layers. Modern measurement techniques. Computer analysis. Laboratory experiments. Two hrs. lecture and two hrs. lab per week. Fall. *Prerequisites: ENES 221, ENME 232 or 320.*

ENME 332 Transfer Processes **3 cr.**
FSU Course. The principles of heat transfer. Conduction in solids. Convection. Radiation. Modern measurement techniques. Computer analysis. Two hrs. lecture and two hrs. lab per week. Spring. *Prerequisite: ENME 331.*

ENME 350 Electronics and Instrumentation I **3 cr.**
FSU Course. Modern instrumentation. Basic circuit design, standard microelectronic circuits. Digital data acquisition and control. Signal conditioning. Instrumentation interfacing. Designing and testing of analog circuits. Laboratory experiments. Two hrs. lecture and two hrs. lab per week. Not open to students who have credit for former ENME 252. Fall. *Prerequisite: PHYS 263.*

ENME 351 Electronics and Instrumentation II **3 cr.**
FSU Course. Continuation of ENME 350. Modern instrumentation. Basic circuit design, standard microelectronic circuits. Digital data acquisition and control. Signal conditioning. Instrumentation interfacing. Designing and testing analog circuits. Laboratory experiments. Two hours lecture and two hours lab per week. Spring. *Prerequisites: ENME 350 and PHYS 263.*

ENME 361 Vibration, Controls and Optimization I **3 cr.**
UMCP Course. Fundamentals of vibration, controls, and optimization. Analysis and design in time, Laplace and frequency domains. Mathematical description of system response, system stability, control and optimization. Optimal design of mechanical systems. Spring. *Prerequisites: ENES 220, ENES 221, ENME 271, and MATH 432.*

ENME 371 Product Engineering and Manufacturing **3 cr.**
FSU Course. Business aspects of engineering product development. Relationship of design and manufacturing. Product specification. Statistical process control. Design team development. The development process. Fall. *Prerequisite: ENES 221 and ENME 392.*

ENME 382 Engineering Materials & Manufacturing Processes **3 cr.**
FSU Course. Basic material structures and properties. Mechanical behavior of materials. Manufacturing processes theory. Materials processing. Quality assurance. Laboratory experiments. Two hours lecture and two hours lab per week. Spring. *Prerequisite: ENES 220.*

ENME 392 Statistical Methods for Product & Process Development **3 cr.**
UMCP Course. Integrated statistical methodology for the improvement of products and processes in terms of performance, quality and cost. Designed experimentation. Statistical process control. Software application. Laboratory activities. Fall. *Prerequisite: MATH 238.*

ENME 425 Microfabrication **3 cr.**
Overview of microfabrication technologies and the science of miniaturization. Microsensors, nanotechnology. Photolithography, dry etching, wet etching, chemical vapor deposition, and physical vapor deposition. Three hrs. integrated lecture and lab. Spring. *Prerequisite: Senior standing in engineering/natural science or permission of instructor.*

ENME 462 Vibration, Controls and Optimization II **3 cr.**
UMCP Course. Continuation of ENME 361. Fundamentals of vibration, controls, and optimization. Analysis and design in time, Laplace and frequency domains. Mathematical descriptions of system response, system stability, control and optimization. Optimal design of mechanical systems. Fall. *Prerequisites: ENME 351 and ENME 361.*

ENME 472 Integrated Product and Process Development **3 cr.**
FSU Course. Integration of product development with the development process. Design strategies. Product architecture. Design for manufacturing. Selection of materials. Design for assembly. Two hours lecture and two hours lab per week. Spring. *Prerequisite: ENME 371. Capstone.*

ENME 488 Special Problems in Mechanical Engineering **3 cr.**
Advanced problems in mechanical engineering with special emphasis on mathematical and experimental methods. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: permission of department.*

English

Writing

ENGL 100 Publication Practicum **1-2 cr.**
Writing for and editing the campus literary magazine. Open to all students. (1-2 credits per semester: repeatable to 4 credits). Spring.

ENGL 101 Freshman Composition **3 cr.**
Addresses the processes of composition and develops intermediate skills in writing essays with an argumentative edge. Based on readings for diverse audiences, it prepares students for writing documented essays. Every semester. *Students may not withdraw unless withdrawing from the University. Core Skill 1.*

ENGL 111 Honors: Freshman Composition **3 cr.**
Development of intermediate skills in writing based on readings for general audiences. Preparation for honors-level courses. Credit cannot be earned for both ENGL 101 and ENGL 111. Every semester. *Prerequisite: enrollment in the Honors Program. Core Skill 1.*

ENGL 215 Grammar for Writing **3 cr.**
Systematic study of English grammar, including parts of speech, components of sentences, phrases, clauses, sentence patterns and punctuation. Emphasis on application of grammatical principles to student writing. Variable, but normally offered during Intersession and Summer sessions only. Does not fulfill Core Skill 1 or 2, although the credits may be used to fulfill the 120 hr. minimum toward graduation. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR THE MAJOR OR MINOR IN ENGLISH.

ENGL 300 Critical Writing About Literature **3 cr.**
Introduction to literary theory to develop critical perspectives on literary works and provide flexible writing strategies. Advanced writing about literature. Required of English majors and minors. Prior literature at 200-level required. Readings involve literary analysis and criticism. Every semester. *Prerequisite: C or better in ENGL 101 or 111. Core Skill 2.*

ENGL 308 Social Sciences Advanced Composition **3 cr.**
Development of advanced skills in writing based on reading for social science audiences. Preparation of extended papers; attention to research tools and documentation. Students may receive credit for only one of the following: 308, 309, 310 or 312. Every semester. *Prerequisites: C or better in ENGL 101 or 111; and at least 42 credits or permission of Chair. Core Skill 2.*

ENGL 309 Advanced Composition: Humanities **3 cr.**
A special advanced composition course which fulfills all of the reading and writing requirements of English 308 and 310, but centers research on topics appropriate to the humanities. Development of advanced writing skills. Extensive and research-based papers; attention to research tools and documentation. Students may receive credit for only one of the following: 308, 309, 310, or 312. Fall. *Prerequisites: C or better in English 101 or 111; and at least 42 credits or permission of instructor. Core Skill 2.*

ENGL 310 General Advanced Composition **3 cr.**
Development of advanced skills in writing. Students may receive credit for only one of the following: ENGL 308, 309, 310, or 312. Every semester. *Prerequisites: C or better in ENGL 101 or 111; and at least 42 credits or permission of Chair. Core Skill 2.*

ENGL 312 Honors: Advanced Composition **3 cr.**
Development of advanced skills in writing. Both reading and writing assignments more challenging than those in other Advanced Composition courses (ENGL 308, 310). Credit cannot be earned for more than one of the following: ENGL 308, 309, 310, or 312. Variable. *Prerequisites: C or better in ENGL 101 or ENGL 111, at least 42 credits, and enrollment in Honors Program. Core Skill 2.*

ENGL 330 Business Writing **3 cr.**
Basic writing for business and para-professional occupations. Writing resumés, job applications, memos and reports, and other kinds of business writing. Every semester. *Prerequisites: C or better in ENGL 101 or 111; and at least 42 credits or permission of Chair. Core Skill 2.*

ENGL 334 Creative Writing: Fiction **3 cr.**
Major elements of fiction writing: style, characterization, point of view, structure, pacing, conflict. Class critiques of student work. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 335 Creative Writing: Poetry **3 cr.**
Major elements of poetry: imagery, metaphor, theme, form. Both lyric and narrative poetry. Class critiques of student work. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 336 Journalistic Writing **3 cr.**
Introduction to the newspaper industry, effective newsgathering, and the specialized formats and style of straight news and feature stories. Communication and promotional activities of the journalist-turned-public-relations professional. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 338 Technical Writing **3 cr.**
Principles and practice of writing related to science, industry, and government. Effective style, organization, and mechanics of writing reports. Every semester. *Prerequisites: C or better in ENGL 101 or 111; and at least 42 credits or permission of Chair. Core Skill 2.*

ENGL 339 Scientific Writing **3 cr.**
Introduction to formats, prose, and style specifications for Natural Science curricula. Focuses on language, research, critical analysis, and interdisciplinary impact of scientific discoveries. Variable. *Prerequisites: C or better in ENGL 101/111; at least 42 credits or permission from Chair. Core Skill 2.*

ENGL 360 Creative Nonfiction **3 cr.**
Merging of the skills of storytelling and reporting to write personal essays and literary journalism. Fall. *Prerequisite: ENGL 334, 335, or 336.*

ENGL 402 Editing and Production **3 cr.**
Design, layout, and editing techniques for professional publications. Reinforcement of copy editing and proofreading skills. Spring. *Prerequisite: ENGL 300, 308, 309, 310, 330, or 338.*

ENGL 430 The Composing Processes **3 cr.**
A survey of theory and research on the composing processes. Every semester. *Prerequisite: 6 hrs. of writing courses, including one from the 300 writing series offered by the English department.*

ENGL 434 Advanced Fiction Writing **3 cr.**
Continued study of fiction writing through advanced individual work on short stories, a novel, or a novella. Within a workshop setting, students will work toward producing publishable-quality fiction and learn how to approach publishers and editors. Fall. *Prerequisite: ENGL 334 or permission of instructor.*

ENGL 435 Advanced Poetry Writing **3 cr.**
Continued study of poetry writing through advanced individual work on lyrical, dramatic, and narrative poems. Within a workshop setting, students will work towards publishable-quality poetry. Spring. *Prerequisite: ENGL 335.*

ENGL 436 Advanced News and Feature Writing **3 cr.**
Skills in gathering and writing news. Techniques of New Journalism and writing for magazines. Spring. *Prerequisite: ENGL 336 or permission of instructor.*

ENGL 460 Form and Theory of Fiction and Poetry **3 cr.**
In-depth study of the techniques and methods employed by major writers of fiction and poetry, including consideration of structure, language, form, voice, theme, point of view, and character. Fall. *Prerequisite: ENGL 334 or 335.*

ENGL 470 Senior Workshop **3 cr.**
An integrated senior-year experience that requires students to use their accumulated skills, knowledge, and creative impulses to complete a final creative writing portfolio of publishable quality. Course includes tutorials, workshops, marketing and submission of original work, and final readings. Spring. *Prerequisite: ENGL 434 or 435.*

ENGL 492 Internship Seminar **1 cr.**
Academic component of internship. Requires co-registration in 495. Graded A-F. Credit for 492 may be counted toward major. Every semester.

ENGL 494 Field Experience in Writing **3 cr.**
Requires nine work-hours per week of practical writing experience in an approved, supervised, professional setting. Every semester. *Prerequisites: Junior or senior standing and permission of the faculty coordinator.*

ENGL 495 Internship in English **6 or 12 cr.**
Experiential component of internship: guided work experience in conjunction with 492; must directly relate to academic program. Full-time interns register for 12 credits in 495 and 1 credit in 492. Part-time interns register for 6 credits in 495 and 1 credit in 492. English 495 is graded P/F. Every semester. *Prerequisites: junior or senior status, in good academic standing; submission of Internship Agreement form to internship director prior to registering; major or minor in English, or minor in Public Relations, Journalism or Film Studies.*

Literature and Language

ENGL 150 Introduction to Literature **3 cr.**
A thematic study of literature, looking across genres and cultures at contemporary topics. Continued development of writing skills. Every semester. *GEP Group B.*

ENGL 206 Modern American Drama **3 cr.**
An introductory survey of representative American plays and playwrights of the 20th century with attention to the evolution of Modern American Theatre and analysis of the efforts of the playwright and theatrical professionals. Fall, even-numbered years. *Prerequisite: ENGL 101 or 111 or equivalent. Also offered as THEA 206.*

ENGL 207 Introduction to Film Studies **3 cr.**
A cross-cultural examination of film with a focus on developing critical skills and formal approaches to cinematic analysis through such concepts as genre, cinematography, camera movement and sound. Weekly film viewing. Fall. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 208 Film and American Culture **3 cr.**
Critical investigation of popular American movies, emphasizing the role films have historically played in projecting, reflecting and challenging cultural values and beliefs. Weekly film screening. Spring, even-numbered years. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 221 Intro. to Literature/Intermediate Composition **3 cr.**
Critical reading of expository prose and significant poetry, drama, and fiction from a variety of cultures and eras, with emphasis on developing intermediate writing skills. Preparation of short papers and essay exams. Graded A-F. A passing grade (D or better) satisfies the GEP Group B requirement for ENGL 150. Students meeting the competencies of freshman composition purchase three credits for ENGL 101. Students in 221 may thus fulfill both the core skill (ENGL 101, when the credits are purchased) and the GEP Group B requirement of ENGL 150, or they may fulfill only one, or neither. Every semester. *Open only to students never enrolled in ENGL 101 or ENGL 111. Students may not withdraw unless withdrawing from the University. Core Skill 1 and/or GEP Group B.*

ENGL 231 African American Literature **3 cr.**
Critical examination of major African American writings. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 250 Honors: Comparative Literature **3 cr.**
Literature generated by the cross-cultural interface of Western countries with those third-world areas that have reclaimed their national identities since World War II. Credit cannot be earned for both ENGL 150 and ENGL 250. Variable. *Prerequisite: acceptance into the Honors Program or permission of instructor. GEP Group B.*

ENGL 260 British Literature: Beowulf to Present **3 cr.**
A survey of British literature from Beowulf to the present. Includes major works from each period to provide historical perspective. Designed for English majors and minors. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 261 American Literature: Colonial to Present **3 cr.**
A survey of American literature from colonial times to the present. Includes works from each period to provide historical perspective. Designed for English majors and minors. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 270 European & Neo-European Literature **3 cr.**
Works, in translation, important to European and Neo-European cultures, such as selections from the Old Testament, the literature of ancient Greece and Rome, Italian, French, Spanish, German, Russian, etc., literatures. Fall. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 271 Asian & African Literature **3 cr.**
Including works, in translation, from Asian and African cultures, such as the major works of the Middle East, India, the African nations, China, and Japan. Spring. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 276 Adolescent Literature **3 cr.**
Definition, classification, and analysis of adolescent literature and its value. Contemporary and classical works appropriate for or written especially for adolescents. Spring. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 280 Mythology and Literature **3 cr.**
Greco-Roman literature, American Indian legends, and myths from diverse cultures examined in a literary and socio-cultural context. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 281 Literature Into Film **3 cr.**
Critical examination of how literary works are translated into film, analyzing the means by which the director and others (actors, cinematographers, editors) interpret the literary work being adapted. Weekly film viewing. Fall, even-numbered years. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 282 Shakespeare on Film **3 cr.**
A critical examination of Shakespeare's plays on film, considering the films as interpretations and adaptations. The emphasis will be both literary - how do the films interpret and revise Shakespeare's drama - and cultural - what do these films reveal about the culture that produced them. Weekly film viewing. Fall, odd-numbered years. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 290 Topics in Language and Literature **3 cr.**
A selected aspect of language or literature. May be taken more than once for credit if subtitle is different. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *English 101 or 111 must be taken concurrently with or prior to ENGL 290.*

ENGL 306 Introduction to English Linguistics **3 cr.**
A study of the grammars and grammatical aspects of English as well as of language use in society, language change, and language acquisition and processing. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 340 Shakespeare **3 cr.**
A selection from the histories, comedies, major tragedies, and problem plays or romances. Every semester. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 344 Film Theory **3 cr.**
Critical survey of world film with an emphasis on theoretical schools and movements. Three hours discussion with a weekly film viewing. Spring, odd-numbered years. *Prerequisites: ENGL 101 or 111 or equivalent, ENGL 207 or permission of instructor.*

ENGL 371 Literature of the Middle Ages **3 cr.**
Literature of the Anglo-Saxon and Medieval periods. Credit cannot be earned for both ENGL 371 and ENGL 411. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 372 Early Modern Literature **3 cr.**
Literature from the Early Modern Period or Renaissance (16th-17th centuries). Focus on British writers with attention to the literature of the discovery of the New World. Credit cannot be earned for both ENGL 372 and ENGL 307. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 373 Literature of the Enlightenment **3 cr.**
Literature of 1650-1750 in Great Britain and America that represents movements toward philosophical, spiritual, scientific, social, and personal enlightenment. Credit cannot be earned for both ENGL 373 and either ENGL 322 or ENGL 352. Variable. *Prerequisite: C or better in Engl. 101 or 111 or equivalent.*

ENGL 374 Literature of the Age of Revolution **3 cr.**
Literature of the mid and late eighteenth century on both sides of the Atlantic. Credit cannot be earned for both ENGL 374 and either ENGL 332 or ENGL 352. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 375 Romanticism **3 cr.**
Literature of Romantic movement in the 19th century, with attention to major themes of Romantic and Transcendental writers, on both sides of the Atlantic. Credit cannot be earned for both ENGL 375 and either ENGL 303 or ENGL 313. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 376 Realism and Naturalism **3 cr.**
Literature of the later 19th century from both sides of the Atlantic. Credit cannot be earned for both ENGL 376 and either ENGL 323 or ENGL 407. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 377 Modernism **3 cr.**
Literature from the turn of the twentieth century to WWII from both sides of the Atlantic. Credit cannot be earned for both ENGL 377 and either ENGL 407, ENGL 404, or ENGL 426. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 378 Postmodernism **3 cr.**
Literature written after WWII from both sides of the Atlantic. Credit cannot be earned for both ENGL 378 and either ENGL 408, ENGL 424, or ENGL 426. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 379 Postcolonial Literature **3 cr.**
Literatures of former British and other European colonies from the second half of the twentieth century through the present, with emphasis on issues such as colonialism, nationalism, and modernity. Variable. *Prerequisite: C or better in ENGL 101 or 111 or equivalent.*

ENGL 416 History of the English Language **3 cr.**
From the beginning to contemporary usage; changes in sounds, grammatical and spelling forms, syntax, and vocabulary. Spring. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 418 Second Language Acquisition: Theory & App. **3 cr.**
Introduction to theories of how children and adults learn second languages, with application to conducting research or to teaching/tutoring children and adults who are second language learners (principally English as a second language). Fall, even-numbered years.

ENGL 421 Jane Austen in Literature and Film **3 cr.**
Examination of the five major novels of Jane Austen in literature and in film versions Variable. *Prerequisite: C or better in ENGL 101/111.*

ENGL 431 World Drama I: Premodern **3 cr.**
World drama from the 5th Century B.C. Greeks to the late 19th century. Representative dramatists and forms from both the West and the East. Multicultural emphasis on the use and development of drama. Fall, even-numbered years. *Prerequisite: C or better in ENGL 101 or 111; ENGL 150/250 or THEA 106 or permission of instructor. Also offered as THEA 431.*

ENGL 432 World Drama II: Twentieth Century **3 cr.**
World drama during the 20th century. Representative dramatists and forms from both the West and the East. Multicultural emphasis on the variety of dramatic forms. Spring, odd-numbered years. *Prerequisite: C or better in ENGL 101 or 111; ENGL 150/250 or THEA 106 or permission of instructor. Also offered as THEA 432.*

ENGL 440 Literature of the Environment **3 cr.**
Critical, multi-cultural and historical study of literature of the environment, emphasizing the variety of attitudes toward the land in essays and poetry. Fall, odd-numbered years. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 450 Women and Literature **3 cr.**
A cross-cultural study of womanhood as portrayed by male and female writers over the centuries. Fall, even-numbered years. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 471 Seminar in Critical Theory **3 cr.**
Study of literary critical theory and application to an independent student project. Required of English majors in the literature concentration. Fall. *Prerequisites: C or better in ENGL 101 or 111; senior status.*

ENGL 480 Senior Seminar in English **3 cr.**
Integration of previous course material and student's own experience in the discipline for a critical analysis of a topic in literature. Topics will vary. Senior thesis required. Variable. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 489 English Capstone **1 cr.**
Conversion of students' working portfolios, accumulated during their careers as English majors, into "best works" collections for professional application and departmental assessment purposes. Other assessment activities possible. Every semester. *Prerequisite: senior status.*

ENGL 490 Selected Topics in English **3 cr.**
A select aspect or body of literature of limited scope and topical interest. Subject varies; see Academic Schedule for specific titles. Repeatable for a maximum of 6 credits if topics are substantially different. Spring. Seniors only. *Prerequisite: C or better in ENGL 101 or 111.*

ENGL 499 Independent Study **1-3 cr.**
Guided reading and/or writing projects. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *Prerequisites: permission of the department chair and a faculty director, normally given only to majors of junior or senior standing with at least a B average in the major.*

Reading Improvement and Development

ENGL 105 Critical Reading **3 cr.**
The reading process: development of literal comprehension and critical analysis in various content areas. Fall. *Students required to enroll in this course based upon results of the reading placement test administered by the University may not withdraw unless withdrawing from the University.*

Environmental Humanities

HUMA 495 Project in Environmental Humanities **3-9 crs.**
Guided field experience supplemented by appropriate readings and written reports leading to a substantial research paper or to a creative project. Both experiential and academic components are graded P/F. *Prerequisite: Completion of all other courses in the minor and permission of the Environmental Humanities Committee.*

Environmental Policy

EPOL 491 Seminar in Environmental Policy **3 cr.**
Designed to synthesize course work in Environmental Policy. Required of students completing a minor in Environmental Policy. Students will select topics, make presentations, and participate in discussions. Variable. *Prerequisite: permission of coordinator.*

Finance

You cannot receive credit for both a FINA course and the same course formerly labeled BUAD.

FINA 301 Introduction to Personal Financial Planning **3 cr.**
Overview of elements in the personal financial planning process: goal identification and budgeting, tax management, insurance planning and risk management, investments planning, retirement income and benefits, and issues in estate planning. Fall.

FINA 303 Principles of Finance **3 cr.**
Introduction to basic principles of the three traditional divisions of finance: financial markets and institutions, investment and portfolio analysis, and corporate finance. Does not count for accounting majors. Spring. *Prerequisites: core skill requirement in mathematics, ACCT 211 and ECON 200 or ECON 201/211.*

FINA 370 Corporate Finance **3 cr.**
Principles of financial management within business enterprises. Basics of financial analysis, stocks and bonds valuation, capital budgeting, capital structure decisions, dividend policy, and working capital management . Every semester. *Prerequisites: MATH 106 or MATH 220, ACCT 211, ECON 201/211 and ECON 202/212. Prerequisite or corequisite: ACCT 212.*

FINA 371 Insurance Planning and Risk Management **3 cr.**
The nature of risk and its effect on the business enterprise. Various types of insurance, underwriting practices, actuarial and contractual problems, and government regulations. Spring.

FINA 375 Financial Institutions Management **3 cr.**
Concepts of financial intermediation, characteristics of institutions within the financial services industry, regulation, and financial innovation. Management of liquidity, credit, interest rate, and other risks in a global economic environment. Fall. *Prerequisite: FINA 370.*

FINA 377 Retirement Income Planning **3 cr.**
Retirement income savings planning. Characteristics of various pension plans. Management of defined contribution plans and defined benefit plans, investment of pension assets and performance evaluation of pension funds. Fall. *Prerequisites: ACCT 312 or FINA 301 or 303 or 370.*

FINA 381 Principles of Real Estate **3 cr.**
Industry principles and factors influencing the real estate business. Contracts, deeds, valuation, financing, and government regulation. Fall.

FINA 405 Short-term Financial Management **3 cr.**
Traditional analytical techniques and new approaches to liquidity management. Working capital accounts (cash, receivable, inventory and accounts payable management) and topics such as bank relations, off balance sheet financing, variance analysis models, improved liquidity indicators, and hedging techniques. Variable. *Prerequisite: FINA 370 or FINA 476.*

FINA 420 Entrepreneurial Finance **3 cr.**
Introduction to financial issues relevant to small and emerging businesses, with special emphasis on sourcing capital. Analysis of the financial needs of new business ventures, profit management and cash flow analysis, entrepreneurial capital budgeting, accessing government sources of financing, working capital management, long-term financial policy, as well as external expansion through mergers and acquisitions. Spring. *Prerequisite: FINA 370.*

FINA 451 Estate Planning & Advanced Topics in Financial Planning **3 cr.**
Study and application of the legal, tax, and human factors surrounding the efficient transfer of property including property ownership, probate, wills, intestacy, trusts, federal estate and gift taxation, contemporary techniques in individual estate planning, industry regulation and ethical practices for the estate planner. Synthesis of the financial planning process and discussion of advanced topics in financial planning. Variable. *Prerequisites: Two from FINA 371, FINA 377, FINA 475 and ACCT 420.*

FINA 475 Securities Investment **3 cr.**
Investment opportunities in financial instruments. Valuation of fixed income, equity, and derivative securities. Evaluation of mutual funds. Investment strategies for portfolio management: portfolio selection, diversification, and performance analysis. Spring. *Prerequisite: FINA 370 or ACCT 312.*

FINA 476 Financial Management **3 cr.**
Financial planning and performance evaluation in the business enterprise; obtaining and investing funds. Case-study approach to financial decision-making: basic financial analysis, working capital management, capital budgeting, long-term financing, leasing, mergers, acquisitions, and bankruptcy. Not open to students who have credit for the former BUAD 376. Every semester. *Prerequisites: FINA 370 or ACCT 312.*

FINA 477 International Financial Management **3 cr.**
Analysis of financial management in a multinational enterprise. Multinational working capital management, management of foreign exchange risks, translation and transaction exposure, participation in global financial markets, multinational capital budgeting, and political risks. You cannot receive credit for both FINA 477 and FINA 470. Fall. *Prerequisite: FINA 370 or ACCT 312.*

FINA 479 Financial Policy **3 cr.**
Advanced topics in corporate financial policy. Extensive case study and readings-based approaches to developing and implementing financial policy. Short-term financial planning, advanced capital budgeting, valuation of the firm, long-term strategic financial planning and issues of corporate restructuring. Spring. *Prerequisites: FINA 370 and one from FINA 375 or FINA 475 or FINA 476. Finance Capstone.*

FINA 490 Special Topics in Business Administration - Finance **3 cr.**
A detailed study of a limited topic, problem, or period. Topics vary from semester to semester. Fall. *Prerequisites: 90 credits and 18 hrs. of business administration course work.*

FINA 494 Internship in Finance **3 or 6 cr.**
Guided work experience in finance with business, nonprofit, or government organizations. Minimum of 135 clock hours of experience for 3 credits or 270 for 6 credit hours. Academic components include but not limited to one internship paper for 3 credits or two internship papers for 6 credit hours, internship log, and site supervisor's evaluation of the student's performance. Previous experiences are not acceptable for credit. Maximum of 6 credit hours. A 6 credit Internship choice counts as one elective course. Repeatable for maximum of 6 credits. Every semester. *Prerequisites: junior or senior standing; department chair's approval.*

FINA 499 Independent Study in Finance **1 - 3 cr.**
Research and report on a specific topic not covered by regularly rostered courses. Topic will be defined by the student in conjunction with faculty sponsor. Proposals must be approved prior to registration. You cannot receive credit for both a BMIS course and the same course formerly labeled BUAD. Repeatable for maximum of 4 credits. Every semester. *Prerequisites: 18 credits of business administration course work, 90 credits and permission of department chair.*

Foreign Languages & Literature

Intercultural Studies

MDFL 111 Intercultural Understanding **3 cr.**
The study of the concept of Culture as well as its multiple manifestations and the case study of three diverse peoples. Team taught. Variable. *GEP Group F.*

Special Topics

MDFL 190 Selected Topics in Foreign Lang. and Literature **3 cr.**
A variable topic in a foreign language, literature, or culture other than French or Spanish such as Italian, Japanese, German, Arabic or Chinese. Specific title listed in course schedule. Repeatable for a maximum of 15 credits if topics are substantially different. Variable.

MDFL 290 Selected Topics in Foreign Language & Literature **1-4 cr.**
A variable topic in a foreign language, literature, or culture other than French or Spanish such as Italian, Japanese, German, Arabic or Chinese more advanced than MDFL 190. Specific title listed in course schedule. Repeatable for a maximum of 15 credits if topics are substantially different. Variable.

MDFL 390 Selected Topics in Foreign Language & Literature **1-4 cr.**
A variable topic on language, literature or culture. Specific title listed on course schedule. Repeatable for a maximum of 15 credits if topics are substantially different. Variable. *Prerequisite: permission of department.*

Literature in Translation

MDFL 211 Introduction to World Literature I **3 cr.**
Literary masterpieces in translation, illustrating spiritual, social, and esthetic life from ancient times through the Renaissance. Guest lectures in various literatures. Variable. *Prerequisite: ENGL 101 or 111.*

MDFL 212 Introduction to World Literature II **3 cr.**
Literary masterpieces in translation from the 17th century to the present. Guest lectures in various literatures. Variable. *Prerequisite: ENGL 101 or 111.*

MDFL 301 Latin American Women's Issues **3 cr.**
Study of the history and realities of Latin American women from the colonial period through contemporary Latin America. Variable. *GEP Group F.*

MDFL 407 Latin American and Spanish Film **3 cr.**
A study principally of the most recent films from Latin America and Spain. Taught in English (may not be taken to satisfy the Spanish major). Not open to students with credit for SPAN 407. Two hrs. lecture and two hrs. lab. Variable.

MDFL 417 World Film **3 cr.**
A study of the principal films from around the world. The course is organized geographically and chronologically. Variable. *Prerequisite: junior or senior standing or permission of the instructor.*

Linguistics

LING 301 Introduction to Language **3 cr.**
Introduction to the study of language. The nature of language; language families; techniques of linguistic analysis; linguistic change. Conducted in English. Variable.

French

FREN 101 Basic Elements of French I **3 cr.**
Fundamental skills: listening, speaking, reading, writing. Emphasis on active performance. Language laboratory. Not for students with high school or college French except by special placement. Fall.

FREN 102 Basic Elements of French II **3 cr.**
Continued development of basic skills. Emphasis on active performance. Language laboratory. Spring. *Prerequisite: FREN 101.*

FREN 211 French Grammar, Composition, and Conversation I **3 cr.**
Intensive grammar, oral command of the language, introduction to expository writing. Language laboratory. For students with two or more years of high school French, or FREN 102. Fall.

FREN 212 French Grammar, Composition & Conversation II **3 cr.**
Sequel to FREN 211. Spring.

FREN 250 Overview of French Language and Culture **3 cr.**
Survey of French language through study of major aspects of French and Francophone cultures. Serves as a gateway to advanced study in French. May be taken concurrently with a 300-level course. Fall. *Prerequisite: FREN 212 or equivalent. GEP Group B.*

FREN 330 Advanced Conversation **3 cr.**
Emphasis on development and strengthening of oral-aural skills. Listening and speaking activities, simulation and role playing, phonetics and pronunciation practice. Extensive use of authentic audio and video materials, both recorded and live. Not open to students who have received credit for former FREN 311. Fall. *Prerequisite or corequisite: FREN 250 or equivalent.*

FREN 331 Advanced Composition **3 cr.**
Emphasis on advanced grammar and reading and writing skills. Reading of authentic newspaper and magazine articles and current and relevant materials in the social sciences and other content areas. Not open to students who have received credit for former FREN 312. Spring. *Prerequisite or corequisite: FREN 250 or equivalent.*

FREN 332 French for the Professions **3 cr.**
Vocabulary, reading, writing, and speaking for contact with the French professional world. Use of role-plays, authentic French business materials, analysis of French professional sectors, culture, and etiquette. Spring. *Prerequisite or corequisite: FREN 250 or equivalent.*

FREN 335 Intro. to French Literary Texts **3 cr.**
Introduction to the current methodologies of literary analysis through the chronological study of selected writers and works from the Medieval period to the modern era. Not open to students who have received credit for former FREN 315. Variable. *Prerequisite or corequisite: FREN 250 or equivalent.*

FREN 336 French Civilization Through Film and Literature **3 cr.**
Broad survey of French history from the Renaissance to present day through analysis of French and Francophone film tradition, focusing on a specific, enduring theme of Francophone culture, and incorporating major literary works. Emphasis on aural/oral skills with some supplementary reading in French. Every other fall beginning 2006. *Prerequisite or corequisite: FREN 250 or permission of instructor.*

FREN 410 French Poetry and Drama **3 cr.**
Masterpieces of French poetry and drama in esthetic and cultural context. Every other spring beginning Spring 2007. *Prerequisite: FREN 250 or equivalent.*

FREN 411 French Fiction, Non-Fiction and Film **3 cr.**
Masterpieces of French fiction, non-fiction and film in esthetic and cultural context. Every other spring beginning Spring 2006. *Prerequisite: FREN 250 or equivalent*.

FREN 430 Individual and Society in Francophone World 3 cr.
Analysis of a problem or theme of French individual and social identity within the French social science and philosophical traditions. Every other fall beginning Fall 2006. *Prerequisite: FREN 250.*

FREN 431 Translation 3 cr.
Theory and practice of oral interpretation and written translation from French to English, using real-life examples from social sciences, commerce, natural sciences, media, and the law. Every other fall beginning Fall 2005. *Prerequisite FREN 250 or permission of instructor.*

FREN 490 Special Topics in French Language and Literature 3 cr.
A selected topic such as an author or work, a genre or theme, translation or interpreting. Repeatable for a maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: FREN 250 or equivalent.*

FREN 493 Senior Seminar in French Literature 3 cr.
Capstone in French literature incorporating dossier of written work, oral presentation, extended reading and critical analysis of French literary text or director of multiple films. *Prerequisite: 90 credits or permission of department chair.*

FREN 495 Internship in French 6-12 cr.
Guided work experience in a French speaking organization either in the US or abroad. Graded P/F. The credit is not applicable toward the major. Every semester and summer. *Prerequisites: junior or senior status, major or minor in French, and permission of department.*

FREN 496 Senior Seminar in French Professional Studies 3 cr.
Capstone in French Professional Studies incorporating dossier of written work, oral presentation, and internship or research project. *Prerequisite: 90 credits or permission of department chair.*

FREN 498 Readings in French 1 to 4 cr.
Intensive readings and a term paper. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: FREN 250 or equivalent.*

FREN 499 Individual Problems in the French Language 1 to 4 cr.
Individual research or activity requiring submission of a final paper or completed project. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: FREN 250 or equivalent.*

Spanish

SPAN 101 Basic Elements of Spanish I 3 cr.
Fundamental skills: listening, speaking, reading, writing. Emphasis on active performance. Language laboratory. Not for students with high school or college Spanish except by special placement. Every semester.

SPAN 102 Basic Elements of Spanish II 3 cr.
Continued development of basic skills. Emphasis on active performance. Language laboratory. Variable. *Prerequisite: SPAN 101.*

SPAN 211 Spanish Grammar, Composition, & Conversation I 3 cr.
Intensive grammar, oral command of the language, introduction to expository writing. Language laboratory. For students with at least two years of high school Spanish, or SPAN 102. Every semester.

SPAN 212 Spanish Grammar, Composition, & Conversation II 3 cr.
Sequel to SPAN 211. Variable.

SPAN 250 Overview of Spanish Language & Culture 3 cr.
Survey of Spanish language through study of major aspects of Spanish and Latin American cultures. Serves as a gateway to advanced study in Spanish. May be taken concurrently with a 300-level course. Every semester. *Prerequisite: SPAN 212 or equivalent. GEP Group B.*

SPAN 330 Spanish for Practical Communication I 3 cr.
Emphasis on development and strengthening of oral-aural skills. Listening and speaking activities, simulation and role playing, phonetics and pronunciation practice. Extensive use of authentic audio and video materials, both recorded and live. Not open to students who have received credit for former SPAN 311. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 331 Spanish for Practical Communication II 3 cr.
Development of fundamental writing skills through review of specific grammatical topics and analysis of significant reading selections. Conducted entirely in Spanish. Not open to students who have received credit for SPAN 312. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 332 Spanish for the Professions I 3 cr.
Emphasis on intensive conversation and acquisition of vocabulary pertinent to the professions while focusing on the Spanish-speaking professional culture. Conducted in Spanish. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 333 Introduction to Culture and Civilization of Spain 3 cr.
Spanish culture: political, literary, economic, social, and artistic life in Spain. Not open to students who have received credit for former SPAN 313. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 334 Introduction to Culture & Civilization of Latin America 3 cr.
Latin American culture: political, literary, economic, social, and artistic life in Latin America. Not open to students who have received credit for former SPAN 314. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 335 Introduction to Study of Spanish Literature 3 cr.
Esthetics of Spanish poetry, fiction, and drama. Not open to students who have received credit for former SPAN 315. Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 350 Spanish Phonetics and Pronunciation 3 cr.
Introduction to Spanish phonetics with the objective of improving pronunciation and intonation in Spanish. Students will learn terminology for classifying Spanish sounds as well as basic phonetic transcription with an introduction to the International Phonetic Alphabet (IPA). Variable. *Prerequisite or corequisite: SPAN 250 or equivalent.*

SPAN 401 Literature of Spain I 3 cr.
Survey of literature of Spain from the Middle Ages through the seventeenth century. Representative figures and major literary developments. Variable. *Prerequisites: SPAN 250 and two 300-level Spanish courses.*

SPAN 402 Literature of Spain II 3 cr.
Survey of literature in Spain from the eighteenth century to the present. Representative figures and major literary developments. Variable. *Prerequisites: SPAN 250 and two 300-level Spanish courses.*

SPAN 403 Spanish American Literature I 3 cr.
Survey of literature in Latin America from the Pre-Hispanic period through the early twentieth century. Representative figures and major literary developments. Variable. *Prerequisites: SPAN 250 and two 300-level Spanish courses.*

SPAN 404 Spanish American Literature II 3 cr.
Survey of literature in Latin America from the early twentieth century to the present. Representative figures and major literary developments. Variable. *Prerequisites: SPAN 250 and two 300-level Spanish courses.*

SPAN 407 Latin American and Spanish Film 3 cr.
A study principally of the most recent films from Latin America and Spain. 2 hours lecture and 2 hours lab. Not open to students with credit for MDFL 407. Variable. *Prerequisites: Two 300-level Spanish courses.*

SPAN 408 Comparative Grammar and Translation 3 cr.
Comparative study of English and Spanish grammar and lexicon and basic Spanish-to-English translation. Prerequisite for SPAN 436 Spanish–English Translation. Variable. *Prerequisites: Two 300-level Spanish courses or permission of instructor.*

SPAN 425 Latinos in the USA **3 cr.**
Identification, study, analysis, and consideration of the different origins, circumstances of living, problems and achievements of Latino communities in the United States. Variable. *Prerequisites: Two 300-level Spanish courses or permission of the instructor.*

SPAN 432 Spanish for the Professions II **3 cr.**
Strategies to effectively read and write specialized documents for a variety of professions, taking into account the Spanish or Spanish-American cultural context. Conducted entirely in Spanish. Variable. *Prerequisite or co-requisite: SPAN 250.*

SPAN 435 Literature of Women Writers **3 cr.**
Critical survey of the work of women writers from the Spanish-speaking world including some writers from the U.S.A. who write in Spanish. The survey includes ample range of writing from poetry to movie scripts. Variable. *Prerequisites: Two 300-level Spanish courses or permission of instructor.*

SPAN 436 Spanish–English Translation **3 cr.**
Introduction to translation theory and method, with a specific focus on Spanish to English translation. Students will practice these theories and methods through both in-class and out-of-class translation assignments. Variable. *Prerequisite: SPAN 408.*

SPAN 489 Capstone in Spanish **3 cr.**
Capstone experience in Spanish language and cultures, incorporating an oral presentation, dossier of written work, faculty assessment of language and cultural proficiency, and articulation of goals for the use of the language and culture in professional setting. Every semester. *Prerequisite: 90 credits or permission of department chair.*

SPAN 490 Special Topics in Spanish Language & Literature **3 cr.**
A selected topic such as an author or work, a genre or theme, translation or interpreting. Repeatable for a maximum of 9 credits if topics are substantially different. Variable. *Prerequisites: two 300-level Spanish courses and permission of instructor.*

SPAN 495 Internship in Spanish **6-12 cr.**
Guided work experience in a Spanish speaking organization either in the US or abroad. Graded P/F. The credit is not applicable toward the major. Every semester and summer. *Prerequisites: junior or senior status, major or minor in Spanish, and permission of department.*

SPAN 498 Readings in Spanish **1 to 4 cr.**
Intensive readings and a term paper. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *Prerequisites: three 400-level Spanish courses and permission of instructor.*

SPAN 499 Individual Problems in Spanish Language **1 to 4 cr.**
Individual research or activity requiring submission of a final paper or completed project. Repeatable for a maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: three 300-level Spanish courses and permission of instructor.*

Geography

GEOG 103 Physical Geography **4 cr.**
Earth-sun relations, map reading and interpretations, landforms, elements of weather and climate, and climate regions. Three hrs. lecture and 2 hrs. lab. Every semester. *GEP Group C.*

GEOG 104 Human Geography **3 cr.**
Systematic consideration of factors influencing the distribution of human beings in relation to population dynamics and migration, economic development and urbanization, and cultural diversity. Every semester. *GEP Groups D or F.*

GEOG 110 World Regional Geography: Cultural Diversity **3 cr.**
Earth's natural and cultural diversity, their interconnections, and their dynamic processes examined in each major world region. Variable. *GEP Group D or F.*

GEOG 113 Honors: Physical Geography **4 cr.**
Earth-sun relations, map reading interpretation, landforms, elements of weather and climate, and climate regions. Three hrs. lecture, 2 hrs. lab, and four Saturday field trips. Variable. Credit cannot be earned for both GEOG 103 and GEOG 113. *Prerequisite: acceptance into the Honors Program or permission of instructor. GEP Group C.*

GEOG 114 Honors: Human Geography **3 cr.**
Systematic consideration of factors influencing the distribution of human beings in relation to population dynamics and migration, economic development and urbanization, and cultural diversity. Credit cannot be earned for both GEOG 104 and GEOG 114. Spring. *Prerequisite: acceptance into the Honors Program or permission of instructor. GEP Group D or F.*

GEOG 150 Earth, Wind, and Fire: An Environmental Science Approach to Natural Hazards and Disasters **3 cr.**
Survey of the environmental science of natural hazards and disasters, including floods, hurricanes, volcanoes, earthquakes, landslides and global climate change. Discussion of impacts to society caused by hazards and disasters, and human activities increasing hazards and disasters. Consideration of the risk of disasters and hazards. Variable.

GEOG 205 Descriptive Meteorology **3 cr.**
Aspects of the atmosphere, weather variables, radiation, clean and dirty air, clouds and precipitation, atmospheric electricity, and weather forecast and modification. Field work included. Also offered as PHSC 205. Spring.

GEOG 207 Physical Geology and Geomorphology **4 cr.**
A process oriented approach to develop a fundamental understanding of geology and geomorphology. Experiential laboratory and field experiences of subsurface and surficial interactions with tectonic, hydrologic and atmospheric processes. At least one field trip will be required. Three hrs. lecture and 2 hrs. lab. Not open to students who have credit for former GEOG 307. Spring. *Prerequisite: GEOG 103/113 or permission of instructor.*

GEOG 208 Earth System History **4 cr.**
Chronology of the earth's history from hypothesized origins through the Holocene. Paleography, paleotectonics, and floral and faunal evolution. Lab study of sediments, fossils as indicators of rock age and environment, and geologic maps and structure sections. One field trip may be required. Three hrs. lecture and 2 hrs. lab. Not open to students who have credit for former GEOG 308. Fall. *Prerequisite: GEOG 103 (or 113) or permission of instructor.*

GEOG 275 Fundamentals of Geographic Data Handling **3 cr.**
Exploring sources, characteristics, and types of geospatial data. Discussion of techniques for manual and automated handling of geographically referenced information. Two hrs. lecture and 2 hrs. lab. Every semester. *Prerequisites or co-requisites: GEOG 103 (or 113) and MATH 209, or permission of instructor. Tech. Fluency.*

GEOG 300 Economic Geography **3 cr.**
The distribution of world economic activities. Agriculture, mining, the manufacturing industries, trade, and transportation. Fall. *Prerequisite: GEOG 104/114 or GEOG 110 or sophomore standing.*

GEOG 301 Geography of North America **3 cr.**
Major national and geographic regions of the United States, Canada, and Mexico. Relationship between natural and economic factors. Fall, odd-numbered years. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 302 Geography of Maryland **3 cr.**
A geographic analysis of the State. Spring. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 310 Fundamentals of Cartography **3 cr.**
The art and science of compiling and producing thematic maps as a medium for communication and research. Emphasis is on map design, symbolization, and data classification through desktop mapping and map animation software applications. Two hrs. lecture and 2 hrs. lab. Every semester. *Prerequisites: GEOG 103 (or 113) or GEOG 104 (or 114), or GEOG 110 or permission of instructor.*

GEOG 317 Principles of Geographic Information Science 3 cr.
An examination of the basic theory, concepts, data structures, operations, and applications of geographic information systems (GIS) as a science. Lectures supplemented by computer-based laboratory exercises. Two hrs. lecture and 2 hrs. lab. Fall. *Prerequisites: GEOG 275 and GEOG 380 or completion of one additional MATH course or a Level II Math class or DVMT 100 or proficiency at Level III on the Math placement test, or permission of instructor. GEOG 310 recommended.*

GEOG 320 Geography of Latin America 3 cr.
Physical and human processes that explain the spatial patterns and landscapes of Latin America. Spring, even-numbered years. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 324 Urban Geography: Internal City Patterns 3 cr.
Introduction to urban North American land use and social activities. Theories of internal urban patterns, present patterns, and implications for the future. Housing patterns, commercial and industrial activities, urban transportation, political fragmentation, and the potential role of urban planners. Spring. *Prerequisite: GEOG 104/114 or GEOG 110 or sophomore standing.*

GEOG 325 Urban Geography: Metropolitan Systems 3 cr.
Introduction to urban areas and their distribution. Locational characteristics of cities as centers of manufacturing, distribution, and services. Historic growth patterns and planning strategies for future development. Fall. *Prerequisite: GEOG 104/114 or GEOG 110 or sophomore standing.*

GEOG 335 Oceanography 3 cr.
Basic principles of oceanographic science and discussion of the role of oceans in global environmental systems. Variable. Also offered as SCIE 335. *Prerequisites: GEOG 103 (or 113), BIOL 149, and completion of a college level mathematics course.*

GEOG 340 Soil: Genesis, Nature and Characterization 3 cr.
Origin and processes of soil formation, change with time and environmental factors including use, identification and delineation on the landscape, and interpretation and usage of soil surveys. Two hrs. lecture and 2 hrs. lab./field session. Not open to students who have credit for former GEOG 440. Fall. *Prerequisite: GEOG 103/113 or permission of instructor. GEOG 207 completion or co-registration strongly recommended.*

GEOG 360 Food Systems 3 cr.
Geographic examination of the production, distribution, and consumption of food. Cultural and spatial foundations of the global food system and its impacts on human and natural systems. Sustainable food systems. Fall, odd-numbered years. *Prerequisite: GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 380 Research Methods in Geography 3 cr.
Examines qualitative and quantitative methods for handling geo-spatial data. Design of geographic research, approaches to data collection and synthesis, inferential and descriptive geo-spatial statistics, and presentation of findings. Spring. *Prerequisites: GEOG 275 and 9 hrs. of geography or permission of instructor.*

GEOG 400 Geography of Asia 3 cr.
Cultural, economic and physical transformation of East, South and Southeast Asia. Variable. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110.*

GEOG 401 Geography of Europe 3 cr.
Physical, historical, and cultural features that have shaped the current landscapes of Europe. Three hrs. lecture. Spring, odd-numbered years. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 402 Geography of Northern Eurasia 3 cr.
Physical and human processes that explain the spatial patterns and landscapes of Russia, Ukraine, Mongolia and adjacent states. Variable. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 403 The Geography of Sub-Sahara Africa 3 cr.
Cultural, economic, physical and political potentials of Sub-Sahara Africa. Complex spatial patterns that define the Sub-Sahara African landscape. Fall, even-numbered years. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 404 Geography of the Middle East and Central Asia 3 cr.
Physical and human systems that have shaped the current landscapes and societies of North Africa, the Middle East, the Islamic republics of the former Soviet Union, and Afghanistan. Spring, even-numbered years. *Prerequisite: GEOG 103/113 or GEOG 104/114 or GEOG 110 or permission of instructor.*

GEOG 405 Global Climate System 3 cr.
Overview of the global climate system. Ocean-atmosphere, land-surface-atmosphere and biosphere-atmosphere interactions. Oscillations and teleconnections. Variability and climate change. Fall. *Prerequisite: GEOG 103/113. GEOG 205/PHSC 205 recommended.*

GEOG 406 Management & Conservation of Nat. Resources 3 cr.
Current problems associated with the use and misuse of natural resources. Fall, even-numbered years. *Prerequisites: GEOG 103 /113 and GEOG 104 /114 or permission of instructor.*

GEOG 407 Political Geography 3 cr.
Geographic factors affecting national identity and the present development of countries. Consideration of the spatial organization of political units at the international and domestic
scale. Fall. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing.*

GEOG 407 Political Geography 3 cr.
The world patterns of nations; geographic factors affecting the background and present development of countries. Fall. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing.*

GEOG 410 Locational Analysis 3 cr.
Theories and methods of analyzing and explaining the spatial location of economic activities. Emphasis on theoretical, methodological and practical issues. The relationship between consumer behavior and the location of industrial and service facilities is examined. Spring, even-numbered years. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing.*

GEOG 412 Geographic Visualization 3 cr.
Explores cartographic applications of computer animation, multimedia presentations and interface design for research, data exploration, and visual communication of geo-spatial ideas. Spring even-numbered years. *Prerequisites: GEOG 275 and GEOG 310 or permission of instructor.*

GEOG 413 Remote Sensing — Image Interpretation 3 cr.
Fundamental principles of remote sensing and image interpretation applications in Geography; the remote sensing process, Earth surface energy/matter interactions, photogrammetry basics, color theory & digital image display, introductory digital image processing, and a survey of image types including panchromatic, color-infrared, multispectral, thermal, and radar. Two hrs. lecture and 2 hrs. lab. Fall. *Prerequisite: GEOG 275 or permission of instructor.*

GEOG 414 Digital Image Processing and Analysis 3 cr.
Digital image processing and analysis related to environmental and natural resource management. Satellite data acquisition, data formats and packaging techniques, image processing and analytical techniques, image classification and interpretation, integration of digital image processing applications and modeling with GIS. Two hrs. lecture and 2 hrs. lab. Spring. *Prerequisites: GEOG 275 and GEOG 413 or permission of instructor.*

GEOG 415 Applied Design in the Mapping Sciences 3 cr.
Examines maps as means of visual communication, map use (and misuse), cognition, design theory, visual variables, and color theory. Computer based exercises and a final project. Fall. Two hr. lecture, 2 hr. lab. *Credit may not be earned for both GEOG 415 and GEOG 315. Prerequisites: GEOG 275 and GEOG 310.*

GEOG 417 Geospatial Analysis 3 cr.
Further exploration of GIS theory and applications of spatial analysis and modeling. Includes spatial modeling, building geodatabases by integrating data from separate sources, scripting languages and techniques, and electronic map serving. Student-led discussions and computer-based lab exercises. Two hrs. lecture and 2 hrs. lab. Spring. *Prerequisite: GEOG 317 or permission of instructor.*

GEOG 418 Cartometrics 3 cr.
Examines the map's role as a tool for measuring geo-referenced data including spatial transformations, interpolation and generalization. Computer based projects, selected

readings and group discussion. Spring, odd-numbered years. Two hrs. lecture and 2 hrs. lab. *Prerequisites: GEOG 310 and GEOG 317.*

GEOG 421 Regional Planning 3 cr.
Contemporary topics in regional planning and development. Group and individual projects and research. Fall, beginning Fall 2010. *Prerequisite: GEOG 325 or permission of instructor.*

GEOG 423 Geography of the Suburbs 3 cr.
Geographic patterns of suburbanization in North America. Economic, social, political and environmental issues and planning challenges of modern suburbs. Comparative suburbanization in global perspective. Variable. Intersession and summer. *Prerequisites: GEOG 104/114 and 12 credits in GEOG, SOCI, ECON, and/or POSC.*

GEOG 425 Geography of Transportation 3 cr.
The linkages and flows of goods, services, and people from area to area. The influence of various transportation modes in the historical development of regions; the role of transportation planning in shaping future metropolitan and regional settlements. Spring, odd-numbered years. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing.*

GEOG 427 Geography of Languages and Religions 3 cr.
Languages and religions examined from a geographic perspective. Emphasis placed on the five geographic themes of culture region, cultural diffusion, cultural integration, cultural landscape, and cultural ecology. Fall, even-numbered years. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing. (GEP Group F).*

GEOG 429 Synoptic Climatology 3 cr.
Climatology of atmospheric global circulation patterns and associated weather types. Spring of even numbered years. *Prerequisite: GEOG 405 or permission of instructor.*

GEOG 430 Surface Water Hydrology 4 cr.
Physical principles governing occurrence and movement of water, including precipitation, evaporation and transpiration, runoff, infiltration, soil water movement, and stream channel morphology. Lab/field experience with stream gauging, infiltration measurement, soil hydraulic conductivity, flow frequency analysis and related phenomena. Human influence on surface water hydrology. Three hrs. lecture and 2 hrs. lab. Spring. *Prerequisite: GEOG 103/113 or permission of instructor.*

GEOG 431 Quaternary Environments 3 cr.
Quaternary environments are reconstructed from evidence collected via paleontology, meteorology, sedimentology, ecology, archaeology, anthropology, climatology and many other sources. By relating this evidence to geomorphology it is possible to examine the factors that initiate, drive and determine landscape evolution. Two hrs lectures and two hrs lab. Field component required. Spring, even-numbered years. *Prerequisite: GEOG 103/113 or permission of instructor.*

GEOG 432 Groundwater Hydrology 3 cr.
Principles governing the physical and chemical nature of water below the earth's surface, including fundamental concepts of groundwater flow, water-rock interaction, and groundwater-surface water interactions. Exploration of human influence on the groundwater environment. Spring. *Prerequisites: GEOG 207 and MATH 220 or MATH 236, or permission of instructor.*

GEOG 433 Surveying and Field Techniques 3 cr.
Theory of measurements, computation, and instrumentation; field work , use of Global Positioning Systems (GPS) and compilation of topographic base maps; evaluation of errors; profiling, grading, slope and grade stakes. Fieldwork will include use of a variety of instruments. One hr. lecture and 4 hrs. lab. Fall. *Recommended: MATH 103 and GEOG 275.*

GEOG 441 Soil Analysis 3 cr.
Physical and chemical characteristics of soils as they relate to suitability for plant growth and reproduction. Laboratory and field testing of soil and soil-forming material. Physical properties of soil, moisture relationships, organic matter content, and chemical constituents. Two hrs. lecture and 2 hrs. lab/field session. Fall. *Prerequisite: GEOG 340 or permission of instructor.*

GEOG 445 Biogeography 3 cr.
Patterns of plant and animal distributions in the landscape are stressed and are considered in light of historical, environmental and biotic influences. Historical development of contemporary regional distributions, survey of world biomes and the importance of disturbance and human-induced changes on biotic distributions are considered. Spring. *Prerequisite: GEOG 103 (or 113) or BIOL 149. BIOL 340 is recommended.*

GEOG 450 Urban Planning 3 cr.
City planning: needs assessment, land use suitability, policy, and design. Participation in limited scope planning projects. Spring. *Prerequisite: GEOG 324 or permission of instructor.*

GEOG 454 Geography of Tourism 3 cr.
A review of the geographical distribution of tourism, travel patterns, and tourism impacts on natural environments and local populations. Fall, odd-numbered years. *Prerequisite: GEOG 104/114 or GEOG 110 or junior standing.*

GEOG 455 Tourism Planning 3 cr.
Planning activities associated with the development and marketing of tourist activities. Consideration of both business and leisure travel. Group project focus. Spring, even-numbered years. *Prerequisite: GEOG 454.*

GEOG 460 Natural Hazards in the Physical Environment 3 cr.
Study of hazards to human society arising from wind, water, and earth either independently or from human activities. Perception, prevention, and mitigation of hazards; spatial distribution and impact on global populations. Variable. *Prerequisite: GEOG 103 or permission of instructor.*

GEOG 469 Dynamic Climatology 3 cr.
Dynamics of the global climate system. Radiation, thermodynamics, mechanics, angular momentum. Numerical weather and climate prediction. Dynamics of climate change. Spring of odd numbered years. *Prerequisite: GEOG 405 or permission of instructor.*

GEOG 470 Soil and Water Engineering 4 cr.
Principles and methods for soil and water management related to surface land disturbances. Methods for calculating storm runoff and erosion, design of flow conveyances and water detention basins, and computer assisted modeling. Three hrs. lecture and 2 hrs. lab. Fall. *Prerequisites: Completion of GEOG 103 and GEOG 275, or permission of the instructor.*

GEOG 471 Engineering for Land Development 3 cr.
Basic engineering techniques used in designing landforms, drainage systems, and roadways for land development projects. An overview of project development, equipment and management strategies. Two hrs. lecture, 2 hrs. lab. Spring. *Prerequisites: Completion GEOG 103 and GEOG 275, or permission of the instructor.*

GEOG 472 Environmental Planning 3 cr.
Principles and methods used in environmental assessments and site analysis. Students will prepare an environmental impact statement, site development plan, or mine reclamation plan. Two hrs. lecture, 2 hrs. lab. Spring. *Prerequisite: GEOG 103 (or 113) or permission of the instructor. Capstone for Environmental Analysis and Planning major.*

GEOG 473 Environmental Law 3 cr.
A survey of federal and state environmental laws and regulations. History and role of environmental regulation related to air and water pollution, waste disposal, and resource development. Fall. *Prerequisite: GEOG 103/113 or junior standing.*

GEOG 475 Glacial & Periglacial Geomorphology 3 cr.
Examination of the process, history and characteristics of the cryosphere. Glacial dynamics, associated sedimentary deposits and cold non-glacial frost dominated geomorphic processes and landforms. Analysis of glacial and periglacial landscapes using field data, sedimentary and biological evidence, remote sensing imagery and numerical models. Two hrs. lecture, 2 hrs. lab. Spring, odd-numbered years. *Prerequisites: GEOG 103/113 and GEOG 207.*

GEOG 476 Fluvial & Coastal Geomorphology 3 cr.
Examination of fluvial and near-shore coastal landscapes and sediments developed under the influence of moving water. Analysis of fluvial and near-shore landforms using field data, sedimentary and biological evidence, remote sensing imagery and numerical models. Two hrs. lecture, 2 hrs. lab. Fall, even-numbered years. *Prerequisites: GEOG 103/113 and GEOG 207.*

GEOG 480 The Geographic Perspective **3 cr.**
The historical development of geographic thought with an emphasis on how geographers structure research questions. Spring. *Prerequisite: junior standing and 18 hours of geography completed.*

GEOG 481 Geography Capstone **0 cr.**
Creation of a portfolio comprised of student work that demonstrates achievement of the established learning goals for the Geography major. Grade P/F. Every semester. *Prerequisite: Senior standing or permission of department chair.*

GEOG 485 Senior Project **1 cr.**
Capstone project in Urban and Regional Planning. Completion of independent project with public presentation of findings. Grade P/F. Every semester. *Corequisite: GEOG 421 or GEOG 450.*

GEOG 486 Earth Science Capstone **0 cr.**
Capstone portfolio in Earth Science. Collection of students' work which demonstrates achievement of established learning goals for Earth Science program. For professional application. Graded P/F. Every semester. *Prerequisite: Senior standing or permission of department chair.*

GEOG 488 Environmental Practicum **3 cr.**
A self-paced, independent research study capstone course for concentrators in Environmental Science in Earth Science. The student will select an environmentally-related topic in consultation with his/her advisory committee, prepare a research proposal, conduct a literature review and/or collect field data, and complete a substantive research paper (adhering to the format of a major professional journal) which is also presented in an open public forum. Every semester, summer. *Prerequisites: completion of 24 credit hours in this concentration, senior standing, GPA of at least 2.0 in the concentration and approval of department chair prior to registration.*

GEOG 490 Special Topics in Geography **3 cr.**
A specialized topic or recent development in geography. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: 6 hrs. of geography or permission of instructor.*

GEOG 492 Internship: Research in Geography **3 or 6 cr.**
Academic component of internship. Requires co-registration in 495. Graded A-F. Every semester, summer.

GEOG 495 Internship in Geography **6 or 9 cr.**
Experiential component of internship: guided work experience in conjunction with 492; must directly relate to academic program. Interns register for 9 credits in 495 and 6 credits in 492 or 6 credits in 495 and 3 credits in 492. Co-registration in other courses requires prior approval of the internship coordinator. Graded P/F. Every semester, summer. *Prerequisites: major in Geography, Earth Science, Urban and Regional Planning, or Environmental Analysis and Planning with 24 hrs. completed, senior status, GPA of at least 2.5 in the major; approval of Department Chair; attendance at orientation meeting in semester prior to internship; submission of internship application by fifth week of semester prior to internship (application includes a resume and an internship proposal); requirements of cooperating agency, if any.*

GEOG 499 Research in Geography **1-6 cr.**
Research in field of interest chosen by student and faculty. Every semester, summer. Repeatable for maximum of 6 credits. *Prerequisites: minimum of 15 hrs. of geography completed, GEOG 380, and permission of Department Chair.*

Health

HEED 100 Personal Wellness **2 cr.**
Students will be assisted in developing an understanding of and appreciation for the importance of including lifelong wellness practices and physical activities in their daily lives. Students plan, implement and evaluate own wellness plan. Every semester.

HEED 103 Foundations of Exercise & Sport Science **3 cr.**
The study of both the history and philosophy of exercise and sport science. Emphasis placed on the subdisciplines of athletic training and health/fitness. Every semester.

HEED 104 Foundations of Health Education **3 cr.**
Introduction to theories and practices guiding professional health educator responsibilities and competencies. Spring. *Prerequisite: Major in Health and Physical Education.*

HEED 200 Nutrition **3 cr.**
Principles of nutrition. The effect of food habits on family health. Nutritional requirements for different stages of human development. Application to various economic levels and social backgrounds. Every semester.

HEED 206 Introduction to Athletic Training **3 cr.**
Provides the student interested in Athletic Training the first extensive exposure to the field. Focuses on the theoretical base of the field as well as introductory injury prevention and management concepts. Fall. *Prerequisite: HEED 103.*

HEED 208 Health Education For Special Populations **1 cr.**
Special understanding necessary to the adaptation of health education to disabilities of individual persons. Fall. *Prerequisite: HEED 104.*

HEED 210 Athletic Taping and Bracing Techniques **1 cr.**
The art and science of applying athletic tape and braces in the prevention and treatment of athletic injuries. Fall.

HEED 222 Emergency Medical Techniques in Athl. Training **4 cr.**
An introduction to the daily management of the athletic training clinical environment. Fall.

HEED 223 Clinical Experiences in Athletic Training I **1 cr.**
An introduction to the daily management of the athletic training clinical environment. Spring.

HEED 230 Assessment Design in Health & PE **3 cr.**
Cognitive, affective and psychomotor domain assessments for health and physical education following national and state standards. Follows Bloom's Revised Taxonomy. Fall. *Prerequisite: HEED 104; health and physical education majors only.*

HEED 232 School Health I: ATOD & Safety Education **2 cr.**
Content and theory in the teaching of alcohol, tobacco, drugs, safety and injury prevention in a school health education program. May not be taken by students who have credit for former HEED 207 or 209. Fall. *Prerequisite: HEED 104.*

HEED 233 School Health II: Human Sexuality & Nutrition Education **3 cr.**
Content and theory in the teaching of family life and human sexuality, mental and emotional health, and nutrition in a school health education program. May not be taken by students who have credit for former HEED 220, 221 or 224. Spring. P*rerequisite: HEED 104.*

HEED 234 School Health III: Disease Prevention **3 cr.**
Content and theory in the teaching of personal, consumer, community and environmental disease prevention in a school health education program. May not be taken by students who have credit for former HEED 225, 226 or 227. Fall. *Prerequisite: HEED 104.*

HEED 305 Care and Prevention of Athletic Injuries **3 cr.**
Introduction to athletic injury management. Emphasis on prevention and care of muscular skeletal injuries. Spring.

HEED 306 Organization & Administration of Exercise & Sports Science **3 cr.**
Effective administration and management strategies in exercise and sport science. Human resource management, financial management, facility design and planning, client management issues, and legal liability issues addressed. Emphasis on athletic administration, athletic training and health/fitness management. Fall.

HEED 311 Assessment & Evaluation Methodology **3 cr.**
Testing and measurement techniques; evaluation procedures. Practice in testing and interpretation. May not be taken by students who have credit for former PHEC 311. Fall. *Prerequisite: HEED 230.*

HEED 318 Orthopedic Assessment I: Upper Extremity 4 cr.
General and specific athletic injury assessment procedures. Emphasis is placed on the upper extremity, head, abdomen, throat and thorax assessment. 3 hrs. lecture, 2 hrs. lab. Spring. *Prerequisite: HEED 206.*

HEED 319 Orthopedic Assessment II: Lower Extremity 4 cr.
General and specific athletic injury assessment procedures Emphasis is placed on the spine, pelvis, and lower extremity including gait and postural analysis. 3 hrs. lecture, 2 hrs. lab. Fall. *Prerequisite: HEED 318.*

HEED 320 Pharmacology and General Medical Conditions 3 cr.
Pathology and clinical information about various general medical conditions commonly seen in the physically active. Spring.

HEED 322 Clinical Experiences in Athletic Training II 1 cr.
The in-depth study of both the theoretical and practical clinical aspects of athletic training. Fall.

HEED 323 Clinical Experiences in Athletic Training III 1 cr.
The continued in-depth study of both the theoretical and practical clinical aspects of athletic training. Spring.

HEED 330 Epidemiology of Health and Disease 3 cr.
Examination of the contributions of lifestyle, genetics, environmental and social factors, and health care access to health and well-being of individuals and populations. Variable. *Prerequisite: HEED 101.*

HEED 340 Organization & Administration of Athletic Training 3 cr.
Administration and management strategies in athletic training. Human resource management, financial management, facility design and planning, client management, ethics and legal liability issues. Fall. *Prerequisite: HEED 206.*

HEED 404 Health Instruction 3 cr.
Basic concepts of health education. Implementing a health education program for grades K-12. Every semester. *Required in BLOCK semester prior to PHEC 497 for Teacher Education. Prerequisites: HEED 416 and admission to PHASE II.*

HEED 408 Therapeutic Modalities in Sports Medicine 4 cr.
The study of both the theoretical basis and practical usage of various therapeutic modalities. Designed for individuals who routinely treat sports-related injuries. 3 hrs. lecture, 2 hrs. lab. Spring. *Prerequisite: HEED 318.*

HEED 413 Rehabilitation Techniques in Sport Medicine 4 cr.
Various aspects of the rehabilitation process for the physically active or athletic population. Goals, techniques, evaluation methods and specific rehabilitation programs covered. Credit cannot be earned for both HEED 413 and PHEC 413. 3 hrs. lecture, 2 hrs. lab. Fall. *Prerequisite: HEED 319.*

HEED 416 Curriculum Design in Health Education 3 cr.
Health Education curriculum development, implementation, and evaluation; implementation of program strategies from evaluation results. Fall. *Prerequisite: Major in Health and Physical Education; junior standing.*

HEED 418 Current Issues in Health 3 cr.
Identification and investigation of problems and solutions relevant to existing or emergent health topics. Spring.

HEED 422 Clinical Experiences in Athletic Training IV 1 cr.
Summary of NATA competencies required for certification examination. Emphasis is placed on clinical decision making skills. Fall. *Prerequisites: HEED 322 and HEED 323. Athletic Training Capstone.*

HEED 423 Clinical Experiences in Athletic Training V 1 cr.
Summary of NATA competencies required for certification examination. Emphasis is placed on clinical managerial skills. Spring. *Prerequisites: HEED 322 and HEED 323. Athletic Training Capstone.*

HEED 450 Evidence-Based Practice in Athletic Training 3 cr.
Scientific experimentation vs. anecdotal case description in athletic training. Student learns to systematically find, appraise and use the most current and valid research findings as the basis for clinical decisions. *Prerequisites: Senior and permission of instructor.*

HEED 480 Capstone I in Athletic Training 3 cr.
Finalization of the theoretical and clinical application of upper body injury assessment and rehabilitation techniques used by athletic trainers, preparation for BOC exam. Fall.

HEED 485 Capstone II in Athletic Training 3 cr.
Finalization of the theoretical and clinical application of lower body injury assessment and rehabilitation techniques used by athletic trainers, athletic nutrition, pharmacology and preparation for BOC exam. Spring.

HEED 492 Seminar in Health Promotion 3 cr.
Monthly full day seminar meetings addressing work-related topics. Students must be enrolled in HEED 495 and have completed all other course work. Every semester.

HEED 495 Internship in Health Promotion 9 cr.
Special work experiences related to the health promotion academic program. Full-time students must register for a minimum of 9 credit hours of internship. Graded P/F. Variable. *Prerequisite: Completion of 90 credit hours or more with a "C" or better in the concentration and senior status.*

Health Promotion

You may not receive credit for both a HLTH course and the same course formerly labeled HEED or PHEC.

HLTH 101 Community Health Promotion 3 cr.
Introduction to the profession, theories, and practice of health promotion. Spring.

HLTH 125 Health and Culture 3 cr.
An examination of personal and community health issues and problems as experienced across the cultural landscape of the United States. Fall. GEP Group F.

HLTH 330 Epidemiology of Health 3 cr.
Examination of the contributions of lifestyle, genetics, environmental and social factors, and health care access to health and well-being of individuals and populations. Fall. *Prerequisite: HLTH 101.*

HLTH 405 Sexuality 3 cr.
Content and topics related to sexual and reproductive health relative to the individual and society. Every semester.

HLTH 430 Methods & Materials for Health Promotion 3 cr.
Development of skills to formulate program goals, delineate program objectives, employ a variety of educational techniques, select resources, and integrate behavior change strategies for individual and population-based health education and promotion programs. Spring. *Prerequisites: 6 hours in HLTH.*

HLTH 435 Health Promotion Programming 3 cr.
Development and application of skills in planning, implementation, and evaluation of multi-level health promotion programs. Variable. Fall. *Prerequisite: HLTH 430.*

HLTH 483 Field Experience in Health Promotion 1 to 6 cr.
Field experience in health promotion. Sites of study may vary. Offered as needed. Repeatable for maximum of six credits if placement sites are different. *Prerequisite: permission of instructor.*

History

HIST 100 The Contemporary World in Historical Perspective 3 cr.
A consideration of major historical developments of the last century in diverse areas of the world that illuminate contemporary problems. Every semester. *GEP Group B or F.*

HIST 103 History of the United States 3 cr.
Survey of the political, social, economic, and diplomatic trends in United States history from 1492 until 1876. Every semester.

HIST 104 History of the United States 3 cr.
Survey of the political, social, economic, and diplomatic trends in United States history from 1876 to the present. Every semester.

HIST 111 Honors: The Contemporary World in Historical Perspective 3 cr.
A consideration of major historical developments of the last century in diverse areas of the world that illuminate contemporary problems. Both reading and writing assignments are more challenging than those in HIST 100. Credit cannot be earned for both HIST 100 and HIST 111. Spring. *Prerequisite: enrollment in the Honors Program or permission of the instructor. GEP Group B or F.*

HIST 113 World History 3 cr.
Survey of Western and Non-Western Civilizations and cultures from the earliest times to 1500. Fall.

HIST 114 World History 3 cr.
Survey of Western and non-Western Civilizations and cultures from 1500 to 1900. Spring.

HIST 290 Special Topics in History 3 cr.
A study of an historical topic, problem, or period allowing for more specific focus and greater depth than is possible at the 100-level. Variable. Repeatable for maximum of 6 credits if topics are substantially different.

HIST 299 Writing and Research in History 3 cr.
The study and practice of the techniques of historical research and writing. Completion of this course with a C or better is required for ***final*** admission to the History major. Every semester. *Prerequisite: complete at least one of HIST 103/104/113/114 and enroll concurrently with or soon after completing at least one 300-400 level course.*.

HIST 301 Traditional Africa 3 cr.
The African pre-colonial states: their governments, economic systems, cultural patterns, achievements, and relations with other African and non-African peoples. Also offered as AAST 300. Not open to students who have credit for former HIST 452. Spring.

HIST 303 History of Latin America 3 cr.
Earlier Latin American history: Aztecs, Incas, and Mayas, the Age of Conquest, the colonial period and the struggle for independence. Variable.

HIST 304 History of Latin America 3 cr.
Later Latin American history: the development of the Latin American nations from independence until the present. Variable.

HIST 306 Medieval Europe 3 cr.
A topical survey of European history and Europe's interactions with its neighbors from the 5th century to about 1300. The environmental, economic, social, political, and cultural factors that made for a distinctive civilization in Europe and provided the foundations for future developments in European history. Variable.

HIST 307 Renaissance and Reformation Europe 3 cr.
The political, social, economic, and cultural transformation of Europe from medieval (1300) to early modern (1600). Emphasis on cultural innovation (Renaissance) and religious diversity and conflict (Reformation). Variable.

HIST 308 Europe, 1600-1815 3 cr.
European history from 1600 through Napoleon. The political, social, economic, and cultural development of Europe from a traditional society to the beginnings of the modern period. Variable.

HIST 310 Ancient Greece and Rome 3 cr.
Bronze Age, Archaic, and Classic civilizations of Greece; Alexander and Hellenistic era; early Italy and the Etruscans; Roman republic and empire; fall of Rome. A balance of political, cultural, socio-economic aspects, and interactions with neighboring peoples. Variable.

HIST 341 The Modern and Contemporary Middle East 3 cr.
The religious and secular history of the Middle East from the late 19th century to the present era. National and international aspects of the region before, during, and after the Western imperial thrust into the area. Variable.

HIST 353 Contemporary Africa 3 cr.
The 20th-century emergence of representative African nations; the achievements of these nations; their current political, economic, and social problems. Credit cannot be earned for both HIST 453 and HIST 353. Variable.

HIST 360 Modern and Contemporary Asia 3 cr.
The rising spirit of nationalism, colonial resistance movement, reactions of the imperial powers, and the emergence of new nations against the background of the old cultures. The economic, political, social, and diplomatic implications of the change. Credit cannot be earned for both HIST 460 and HIST 360. Variable.

HIST 376 Modern Europe 3 cr.
European history in the modern period, from the Napoleonic era (1799-1815) to present day, with particular attention to geographic, historical, political and economic distinctions between western and eastern Europe. Credit cannot be earned for both HIST 476 and 376. Variable.

HIST 403 Imperial Russia 3 cr.
The political, economic, social and cultural history of the Russian empire, from its roots in the ninth-century Kievan state to its fullest expansion under the last Romanov tsar, Nicholas II. Variable.

HIST 404 Revolutionary and Soviet Russia 3 cr.
Russia since the revolution of 1905: political developments, both domestic and foreign; economic system, organization; social and cultural evolution. Variable.

HIST 409 World Environmental History 3 cr.
Historical study of environmental dimensions of change in human history. Historical case examples covering most world regions, and periods such as prehistory, the ancient world, agrarian societies, and the recent industrial world. Credit cannot be earned for both HIST 309 and HIST 409. Variable.

HIST 418 Native Peoples of the Americas 3 cr.
Survey of the history of Native American peoples in the Western Hemisphere from pre-Columbian times to the present. The impact of Europeans on native societies and cultures and the natives' relationships with the emerging nation-state. Credit cannot be earned for both HIST 318 and HIST 418. Variable. *GEP Group F.*

HIST 419 A History of Terrorism 3 cr.
The study of terrorism, or conspiratorial political violence that targets the few to gain the attention of the many, in historical context. A consideration of political, economic, social and cultural factors in the evolution of terrorism as a global phenomenon. Credit cannot be earned for both HIST 319 and HIST 419. Variable.

HIST 420 Green: Environment and Economy in US History 3 cr.
Environmental history of colonial America and the United States (1607–Present). Particular attention paid to the impact of economic development on the natural world, the politics of conservation, and the changing ecology of daily life. Credit cannot be earned for both HIST 320 and HIST 420. Variable.

HIST 433 Public History 3 cr.
An introduction to the ideas and methods of public history, emphasizing practical application of research, writing and critical thinking skills in the public sector. Variable.

HIST 436 Women's Issues in World History 3 cr.
The historical study of the major issues affecting women's lives in the modern age (18th-21st centuries) and across multiple cultures. Variable. *GEP Group F.*

HIST 437 History of Korea 3 cr.
Survey of Korean history from the foundations of society on the peninsula to modern

times. Looks at how Koreans have utilized their historical memory to define themselves. *Every third semester beginning spring 2010.*

HIST 445 History of Maryland 3 cr.
Survey of Maryland history from its founding until the present. Credit cannot be earned for both HIST 345 and HIST 445. Variable.

HIST 450 The History of Mexico 3 cr.
The development of Mexican society from the pre-Columbian period to the present. The Aztec and Mayan civilizations, the implanting of Spanish control, the origins of the Mexican Revolution and its long-range impact. Variable.

HIST 455 Latin American Revolutions 3 cr.
Twentieth-century revolutions in Latin America. Theories of revolution, the causes, leaders and followers, post-revolutionary developments and the international consequences of Latin American revolutions. Variable.

HIST 457 India 3 cr.
The philosophical, political, economic, and diplomatic evolution of India from antiquity until the present. Variable.

HIST 458 History of China 3 cr.
Social, political, economic, and diplomatic aspects from the prehistoric and early dynastic era to the current age. Variable.

HIST 459 History of Japan 3 cr.
Social, political, economic, and diplomatic aspects from the prehistoric and early dynastic era to the current age. Variable.

HIST 461 Colonial America, 1607-1763 3 cr.
From the settlement of Jamestown through the French and Indian War. European backgrounds, religious developments, regional differences, Indian relations, and cultural life. Variable.

HIST 462 Revolutionary America 1763-1789 3 cr.
From the conclusion of the French and Indian War to the formation of the United States Constitution: British-American imperial relations; cultural developments in the 18th century; origins, impact, and general nature of the American Revolution; and the formation of the Federal Union. Variable.

HIST 463 The Age of Jefferson and Jackson, 1789-1848 3 cr.
From Washington's presidency through the administration of James K. Polk. The philosophies of Hamilton and Jefferson, the origins of political parties, politics of the Jackson era, Indian removal, the development of transportation, the frontier, slavery, abolitionism, and emerging sectionalism. Variable.

HIST 464 The Civil War and Reconstruction, 1849-1877 3 cr.
From the end of the Mexican War through the period of Southern Reconstruction: growth and sectionalism, and the social, political, military, and economic impact of the War Between the States. Variable.

HIST 465 Gilded Age America, 1877-1913 3 cr.
From the presidency of Hayes through the Progressive Era: the labor movement, growth of the city, immigration, imperialism, art and architecture, and politics. Variable.

HIST 466 The United States in the 20th Century, 1914-1945 3 cr.
The home front during World War I, postwar reaction, the 1920s, the Stock Market Crash, the Great Depression, the New Deal, and American society during World War II. Variable.

HIST 467 The U.S. in the 20th Century, 1945-Present 3 cr.
The Truman, Eisenhower, and Kennedy Years; the Cold War and McCarthyism; the 1960s; Black and student movements; Johnson and Vietnam; Nixon and Watergate; and more recent presidencies. Variable.

HIST 470 America and the Vietnam War 3 cr.
An interdisciplinary study of the origins, development and consequences of the United States involvement in Vietnam from 1950-1975, with emphasis on political and social history. Variable.

HIST 475 Genocide and Mass Violence 3 cr.
Genocides of the modern era from that of the Herero of German Southwest Africa (early 20th century) to that of Darfur in the Sudan (early 21st century). Variable.

HIST 480 The American West 3 cr.
The West from the Mississippi River to the Pacific, including Alaska, emphasizing the 19th century. Spanish exploration; the fur empire; Indian assimilation and extinction; the cowboy's frontier; mining frontier; women in the West; the myth of lawlessness; the West in art, literature, and song; the 20th century West. Credit cannot be earned for both HIST 380 and HIST 480. Variable.

HIST 481 Experiential History/International 3 cr.
Experiential exploration of various topics in international history through student re-enactment using role playing/game models. Taught in rotation by interested faculty. Repeatable for a maximum of 6 credits if topics are substantially different. Variable.

HIST 482 Experiential History/Americas 3 cr.
Experiential exploration of various topics in Americas history through student re-enactment using role playing/game models. Taught in rotation by interested faculty. Repeatable for a maximum of 6 credits if topics are substantially different. Variable.

HIST 484 Practicum in History 3 cr.
Practical experience in public history through placement with an organization or agency for the purpose of completing a specific project. May be repeated once for credit in a different placement. Variable. Repeatable for maximum of 6 credits if placement sites are substantially different.

HIST 485 Seminar in History 3 cr.
Topics in history presented by students, faculty, and invited guests. Individual research (senior thesis) with interim reports and formal presentation of paper. Discussion leadership expected. Spring. *Prerequisite: completion of HIST 299 with a C or better and senior standing. Capstone.*

HIST 489 Special Topics in International History 3 cr.
A detailed study of a limited topic, problem, or period in European/African/Asian history. Topics vary from semester to semester. Variable. Repeatable for maximum of 6 credits combined of HIST 489 and HIST 390 if topics are substantially different.

HIST 490 Special Topics in History of the Americas 3 cr.
A detailed study of a limited topic, problem, or period of North or South American history. Topics vary from semester to semester. Variable. Repeatable for maximum of 6 credits if topics are substantially different.

HIST 492 Internship Seminar 3 cr.
Academic component of internship. Requires co-registration in 495. Graded A-F. Normally Summer. *Prerequisites: junior or senior status, in good academic standing, submission of Internship Agreement form to internship director prior to registering.*

HIST 495 Internship in History 6-12 cr.
Experiential component of internship: guided work experience in conjunction with 492; must directly relate to academic program. Full-time interns register for 12 credits in 495 and 3 credits in 492 and may not enroll in other courses. Part-time interns register for 6 credits in 495 and 3 credits in 492. Graded P/F. Normally Summer. *Prerequisites: junior or senior status, in good academic standing, submission of Internship Agreement form to internship director prior to registering.*

HIST 498 Readings in History 3 cr.
Directed readings in some specialized area or topic of history. The topic must relate to an upper level history course previously taken in that area. Normally limited to seniors majoring in history with at least a 3.0 GPA in all history courses. *Permission of advisor, instructor, and chair of the department must be secured during the preceding semester.* In exceptional circumstances, may be repeated once for credit. Intersession and Summer. Repeatable for maximum of 6 credits.

HIST 499 Individual Research in History 3 cr.
The preparation of a research paper under the direction of the History Department. The topic must relate to an upper level history course previously taken in that area. Normally limited to seniors majoring in history with at least a 3.0 GPA in all history courses. *Permission of advisor, instructor and chair of department must be secured during the preceding semester.* In exceptional circumstances, may be repeated once for credit. Intersession and Summer. Repeatable for maximum of 6 credits.

Humanities

HUMA 309 Zen Practice **1-2 cr.**
A "lab" experience supplementing in-class theoretical learning with practical and direct experience of zazen meditation under instructor guidance (1 cr.). Optional second credit earned through workshop attendance at the Rochester Zen Center. Variable. *Requires concurrent enrollment in ENGL 309.*

HUMA 444 Metaphysics and Modern Physics **3 cr.**
Interdisciplinary study of 20th-century physics and ancient Asian metaphysics. Concepts of reality proposed by Newton, Einstein, Heisenberg, and other physicists; and by Lao-Tzu, Buddha, Hui Neng, and other ancient philosophers. Also offered as PHSC 444. Spring.

Information Technology

ITEC 312 Human-Computer Interaction **3 cr.**
Basic concepts of human-computer interaction, human factors, performance analysis, cognitive processing, usability studies, human-centered software, accessibility, emerging technologies, developing effective interfaces. Variable. *Prerequisites: Grade of C or better in COSC 130 and PSYC 150/151.*

ITEC 315 Programming **3 cr.**
Fundamental data structures including the use of stacks, queues, graphs and trees; fundamental programming constructs including basic syntax and semantics; object oriented programming; algorithms and problem solving; event-driven programming; recursion. Variable. *Prerequisites: Grade of C or better in COSC 100/110 or grade of C or better in COSC 101 and COSC 130 or permission of the instructor.*

ITEC 345 Database Systems I **3 cr.**
Introduction to principles of database development focusing on major business functions and benefits of databases, database planning, database models, database design, and database applications. Learn how to approach a real world database project, convert the project requirement to a design and finally implement using a commercial database management system. Variable. *Prerequisite: Grade of C or better in ITEC 315.*

ITEC 355 Network Implementation **3 cr.**
Foundations of networking, LANs, WANs, service providers, packets, hubs, routers, switches, Internet protocols, layered models, physical layer, security, and application areas. Variable. *Prerequisite: Grade of C or better in COSC 102 and ITEC 315.*

ITEC 360 Operating Systems **3 cr.**
Fundamentals of operating systems including both Unix and Windows operating systems; architecture and organization; computing infrastructure; enterprise deployment software; firmware; hardware; installation; maintenance; administrative activities; administrative domains. Variable. *Prerequisites: Grade of C or better in COSC 102 and COSC 315.*

ITEC 363 PC Module Installation and Maintenance **3 cr.**
Managing, maintaining, and troubleshooting PC hardware. Two hrs. lecture, 2 hrs. lab. Variable. *Prerequisite: Grade of C or better in ITEC 360.*

ITEC 364 PC Software Installation and Maintenance **3 cr.**
Managing, maintaining, and trouble-shooting PC software. Survey of current software applications like MS servers, SAP, Knowledge Management software, and other Enterprise Resource Planning software. Two hrs. lecture, 2 hrs lab. Variable. *Prerequisites: Grade of C or better in ITEC 360.*

ITEC 410 Diversity in the Global Information Technology **3 cr.**
Issues and influences that information technology (IT) has had on the global society and culture. Changing nature of work, education, government, culture, and society around the world; place of professionals entering the global IT workforce. Global ethical issues such as intellectual property rights, computer-related crime, privacy concerns, public policy issues, and IT influences on global economics. Variable. *Prerequisite: Grade of C or better in COSC 305.*

ITEC 414 Knowledge Management **3 cr.**
Basic concepts, skills, tools, techniques, and practices of knowledge management in the context of information sciences and information technology. Technologies including intranets, groupware, web logs, content management systems, and collaborative tools in both individual and organizational contexts. Use these KM technologies, review case studies, research methods of knowledge organization, and analyze and evaluate KM processes and systems. Variable. *Prerequisite: Grade of C or better in ITEC 315.*

ITEC 442 Electronic Commerce **3 cr.**
Develop knowledge of E-commerce concepts and terminology. E-marketplaces, E-commerce economic impacts, market research, company-centric B2B, E-supply chain, corporate portals, E-government, E-learning. Introduction to implementing an e-commerce system. Variable. *Prerequisite: Grade of C or better in ITEC 315.*

ITEC 445 Database Systems II **3 cr.**
Advanced topics such as database security, importing and exporting data, creating indexes and views, script writing, and performing administrative tasks on a database server. An advanced project implementation is required. Variable. *Prerequisite: Grade of C or better in ITEC 345.*

ITEC 452 Network and Administration Security **3 cr.**
Basic network management, network configurations; routing fundamentals, basic router troubleshooting; introduction to network security; protocols for security services; securing network systems and applications: email security, web security, IP security and VPN, remote secure login, security in routing, firewalls. Variable. *Prerequisite: Grade of C or better in ITEC 355.*

ITEC 462 Emerging Issues and Technologies **3 cr.**
Introduction to emerging issues, technology forecasting and analysis; overview of emerging issues and leading technologies in information technology and how they impact information systems, users, the IT labor force and society. Variable. *Prerequisite: Grade of C or better in ITEC 360.*

ITEC 470 Security and Risk Management **3 cr.**
Security issues, management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; security standards and certification processes. Variable. *Prerequisites: At least 72 credits earned and permission of the instructor.*

ITEC 475 Computer and Cyber Forensics **3 cr.**
Fundamental issues and concepts of computer forensics; aspects of computer and cyber crime; methods to uncover, protect, exploit, and document digital evidence; tools, techniques, and procedures to perform computer and cyber crime investigation. Variable. *Prerequisite: Grade of C or better in ITEC 355 or ITEC 360.*

ITEC 480 Project Management **3 cr.**
Basic concepts, skills, tools, techniques, and practices of project management in the context of information technology planning and managing information technology projects. Basic phases of the project management life-cycle: Initiating, Planning, Executing, Controlling, Closing. Fundamental project management knowledge areas: Integration, Scope, Time, Cost, Quality, Human Resources, Quality, Risk, and Procurement. Practical experience via usage of project management software tools. Variable. *Prerequisites: At least 72 credits earned and permission of the instructor.*

ITEC 489 Capstone **1 cr.**
Creation of professional vita, formation of portfolio consisting of student's best examples of programs and research papers. Amalgamation of curricular concepts into a unified entirety. Every semester. *Prerequisites: At least 72 credits earned and completion of all core courses and a grade of C or better in at least two required advanced courses.*

ITEC 491 Seminar in Information Technology **1-6 cr.**
Group study of advanced topics under faculty supervision; up to 3 credits can apply to major or minor in information technology. Repeatable for a maximum of 6 credits if topics are substantially different; up to 3 credits count towards major or minor. Variable. *Prerequisites: Grade of C or better in core courses and written permission of faculty supervisor. DEPARTMENT APPROVAL REQUIRED PRIOR TO REGISTERING.*

ITEC 494 Field Experience in Information Technology 3 cr.
Work experience in industry, government, or small business providing an opportunity for practical application of academic training in information technology. The course requirements are: (1) Minimum of 90 hours of field experience; (2) A written report describing in detail the work performed in the field in conjunction with an oral presentation to interested faculty and students; (3) A project paper on a topic related to the work experience. Previous work experience may not be substituted for this course. More than one field experience may be completed, but the number of credits applied to an information technology major is limited to 3. Repeatable for maximum of 6 credits if placement sites are different; up to 3 credits count in the major. Every semester. *Prerequisites: Junior or senior standing (at least 60 credits earned) and completion of the core courses in information technology with a grade of C or better. DEPARTMENT APPROVAL REQUIRED PRIOR TO REGISTERING.*

ITEC 499 Individual Problems in Information Technology 1-6 cr.
Individual study of advanced topics under faculty supervision; up to 3 credits can apply to major or minor in information technology. Students must submit a written proposal to faculty supervisor and department describing topics, time allocation and limitation, objectives, assignment, and projects. Repeatable for maximum of 6 credits; up to 3 credits count towards major or minor. Variable. *Prerequisites: Grade of C or better in core courses and written permission of faculty and supervisor. DEPARTMENT APPROVAL REQUIRED PRIOR TO REGISTERING.*

Integrated Math/Science

SCIE 320 Integrated Science 4 cr.
Introduction to underlying principles and themes common to all scientific disciplines including biology, physics, chemistry, earth science and astronomy. Appropriate mathematical topics integrated into all aspects of course. Includes laboratory activities, field experiences and computer exercises; exploration of current software, multimedia, instrumentation and telecommunication; application of technology to science emphasized. Three 2 hr. lecture/lab/discussion. Variable. *Prerequisites: BIOL 149, MATH 207 and PHSC 203 or permission of instructor.*

SCIE 321 Integrated Science/Mathematics 3 cr.
Continuation of Integrated Science with emphasis on mathematical modeling. Application of technology to science and mathematics emphasized. Collaboration with students at sister institutions using electronic media encouraged. Two 2-hr. lecture/lab/discussion. Variable. *Prerequisite: SCIE 320 or permission of instructor.*

SCIE 335 Oceanography 3 cr.
Basic principles of oceanographic science and discussion of the role of oceans in global environmental systems. Spring, even-numbered years. Also offered as GEOG 335. *Prerequisites: GEOG 103, BIOL 149 and completion of a college-level mathematics course.*

SCIE 400 Issues in Context: From Specialist to Generalist 3 cr.
Interdisciplinary capstone research seminar led by a team of science, mathematics and education faculty. Students work cooperatively on extended project dealing with a complex societal problem of scientific and technological import. Upon conclusion of study, a policy recommendation will be written and delivered in public form. Active engagement in project design, implementation, analysis and reporting. Variable. *Prerequisites: two lab science courses including PHSC 203; MATH 207; and junior standing; or permission of instructor.*

Interdisciplinary Studies

IDIS 150 First-Year FSU Colloquium 3 cr.
Fostering a **S**ense of **U**nderstanding through exploration of a current issue, theme, problem, person or persons, cultural or historical period, world area or national region, or other unifying principle through interdisciplinary study, discussion, and activities. Every semester. *To be completed within first 45 hours or soon after transfer if applicable. GEP Group E.*

IDIS 155 Introduction to Sustainability Studies 3 cr.
Introduction to sustainability as a field of study and a career. Consideration of environmental, economic, and social equity aspects of sustainable living. Group practicum project. Three hr. lecture, two Saturday group projects required. Also offered as SUST 155. Every semester. *GEP Group E.*

IDIS 160 Science, Technology and Society 3 cr.
Interdisciplinary examination of models of research, development of science and technology, and application and subsequent impact of developments on society and the environment. Every semester. *GEP Group C.*

IDIS 191 Freshman Project 3 cr.
Continuation of fall semester learning communities for freshman students. Real-world or laboratory application of theoretical constructs and interdisciplinary perspectives acquired by students enrolled in learning communities the previous Fall. Student projects will culminate in a product (e.g, video presentation, display, artistic work, etc.) presented to the university community at the end of the semester. Spring. *Prerequisites: freshman standing, learning community member during the previous fall semester, and permission of instructors.*

IDIS 350 Advanced FSU Colloquium 3 cr.
Fostering a **S**ense of **U**nderstanding through exploration of a current issue, theme, problem, person or persons, cultural or historical period, world area or national region, or other unifying principle through interdisciplinary inquiry and research. Every semester. *To be completed after earning 45 hours. GEP Group E.*

Honors Program

Repetition of Honors Program courses requires the permission of the Honors Program Director.

IDIS 151 Honors: First-Year Colloquium 3 cr.
Fostering a Sense of Understanding through exploration of a current issue or other unifying principle through interdisciplinary study, discussion, and activities. Activities emphasize student discussions of assigned readings, oral, and written reports more challenging than those in other first-year colloquium classes. Readings emphasize primary rather than secondary sources. Assignments emphasize active learning experiences. Every semester. Topics vary. You cannot receive credit for both IDIS 151 and IDIS 150. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: Participation in the Honors Program. To be completed within first 45 hours or soon after transfer if applicable. GEP Group E.*

IDIS 351 Honors: Advanced FSU Colloquium 3 cr.
Fostering a Sense of Understanding through exploration of a current issue, theme, problem, person, or persons, cultural or historical period, world area or national region, or other unifying principle through interdisciplinary inquiry and research. Every semester. To be completed after earning 45 hours. Activities emphasize student discussions of assigned readings, oral, and written reports. Topics vary. You cannot receive credit for both IDIS 351 and IDIS 350. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: Participation in the Honors Program and junior or senior standing or permission of the instructor(s). GEP Group E.*

IDIS 491 Honors Seminar 3-6 cr.
An interdisciplinary study of a particular topic. Activities emphasize student discussions of assigned readings, oral, and written reports. Topics vary. Repeatable for maximum of 9 credits if topics are substantially different. *Prerequisites: Participation in the Honors Program and Junior or Senior standing or permission of the instructor(s).*

IDIS 493 Honors Thesis 3 cr.
Individual research or other individualized learning experience on a specific topic initiated by the student. Course requirements include submission of a final paper or completed project. Pre-registration includes submission of a proposal prior to the end of the preceding semester. Proposal must be approved by the faculty member sponsoring the thesis and the Honors Program Advisory Group. See Honors Program Handbook for additional information. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: Participation in the Honors Program, Junior or Senior standing, and proposal approval.*

International Business

INTR 330 International Business **3 cr.**
Introduction to foreign commerce; survey of the environmental, economic, political and social constraints on doing business abroad; discussion of issues and problems facing managers when firms do business with and within foreign countries. Credit cannot be earned for both INTR 330 and BUAD 330. Every semester. *Prerequisite: 42 credits.*

International Studies

INST 150 Introduction to World Religions **3 cr.**
A comparative introduction to the major world religions in their historical, social, political and cultural contexts. Every semester. *GEP Group F.*

INST 200 Introduction to International Studies **3 cr.**
An introductory study of the diverse areas of the world with a focus on contemporary issues and conflicts. Every semester. *GEP Group F.*

INST 491 Seminar in International Studies **3 cr.**
In-depth examination of topics in international studies through presentations, discussions and the preparation of a seminar paper. Spring. *Prerequisites: completion of International Studies core courses and six hours in an area of focus, or permission of the instructor. ENGL 308 is recommended. Capstone.*

INST 492 Internship Seminar **3-6 cr.**
Academic component of internship. Requires co-registration in INST 495. Full-time interns register for 6 credits in 492 and 9 credits in 495 and may not enroll in other courses. Part-time interns must register for 3 credits in 492 and 6 credits in 495. Graded A-F. Normally Summer.

INST 495 Internship in International Studies **6-9 cr.**
Experiential component of internship in conjunction with INST 492. Guided work experience must directly relate to student's academic program. Full-time interns register for 9 credits in 495 and 6 credits in 492 and may not enroll in other courses. Part-time interns must register for 6 credits in 495 and 3 credits in 492. Graded P/F. Normally Summer. *Prerequisites: junior or senior standing. GPA of 3.0 recommended; coordinator's approval of internship required before registering.*

Leadership Studies

LEAD 101 Introduction to Leadership Studies **3 cr.**
Examines fundamental principles and develops basic skills for effective leadership in group, organization, and community contexts. Spring.

LEAD 201 Leadership Theories and Practices **3 cr.**
Examines traditional and contemporary leadership theories and their application to current leadership challenges. Fall. *Prerequisite.*

LEAD 401 Citizen Leader **4 cr.**
Theoretical and experiential exploration of the opportunities, obstacles, and benefits involved in becoming engaged in civic life and social change. Requires extensive field experience. Variable. *Prerequisites: CMST 102, LEAD 101, LEAD 201, and 6 credits from approved elective list. Students who have previously earned credit for LEAD 250 cannot earn credit for LEAD 401.*

LEAD 499 Independent Study **1-4 cr.**
Individualized learning experience on a specific leadership topic, culminating in a written paper. Prior to the semester of the project, the student must submit a preliminary proposal to the Coordinator of the Leadership Studies minor, who will assign a mutually agreeable instructor to supervise the student's project. Variable. Repeatable for maximum of 4 credits.

Liberal Studies

LBST 450 Senior Self Assessment **0 cr.**
Completion of a narrative self-statement explaining the choice of a senior capstone course, justifying the inherent integrity of the focus area, and articulating post-baccalaureate goals, accompanied by a self-evaluation of the learning goals and attainment of learning for each course included in the focus. P/F grade. Every semester. Repeatable until passed. *Prerequisite: Senior standing. Capstone.*

LBST 494 Field Experience in Liberal Studies **3-6 cr.**
Completion of a work experience as part of focus in Liberal Studies. Work experience must relate directly to academic program. P/F. Prerequisites: Junior or senior standing. By twelfth week of the semester prior to experience, students must submit an application including (1) proposal, (2) letter of acceptance from proposed agency indicating direct supervisor and total number of hours to be worked, (3) agreement to keep a written record of hours worked and reflective journal of each day worked.

LBST 499 Directed Study **3 cr.**
Capstone opportunity for Liberal Studies majors: seminar, readings course or independent study. Paper required. P/F. Every semester. *Permission of LBST coordinator required.*

Management

You cannot receive credit for both a MGMT course and the same course formerly labeled BUAD.

MGMT 315 New Business Ventures **3 cr.**
Examines the problems and challenges of creating and managing a small business. Emphasis on the development and implementation of a business idea, and the practical aspects of starting and managing a small business and its functional components: accounting, finance, management and marketing. Every semester. *Prerequisite: 42 credits.*

MGMT 351 Management of Organizations **3 cr.**
The practice of managing in today's dynamic environment; the purpose and processes of organizations; managing individuals and groups in organizations. Emphasis is placed on skills needed for managerial success. Every semester. *Prerequisite: 36 credits.*

MGMT 355 Operations Management **3 cr.**
Introduction to the operations function of a business. Relation between value and efficient operations, forecasting, capacity planning, management of supply chain and materials, quality issues, and project management. Every semester. *Prerequisites: a grade of C or better in MATH 209/219/380, MGMT 351.*

MGMT 356 Leadership and Human Behavior **3 cr.**
Introduction to leadership theories and concepts; emphasis on applications of leadership qualities and human skills required for managerial success and organizational effectiveness. Every semester. *Prerequisite: 42 credits.*

MGMT 357 Human Resources Management **3 cr.**
Effective utilization of human resources in organizations: Emphasis on principles, practices and legal aspects of job analysis, recruitment and selection, training, performance appraisal, compensation, safety and health, employer-employee rights, union-management relations; current issues in the field. Every semester. *Prerequisite: a grade of C or better in MGMT 351.*

MGMT 359 Quality Management **3 cr.**
The Quality Management concept; relationship between quality and competitiveness; developing a quality culture through establishing a customer focus, employee involvement and empowerment, team building, education and training; quality tools; implementing quality management. Every semester. *Prerequisite: a grade of C or better in MGMT 351, MATH 209/219/380.*

MGMT 405 Business Ethics and Social Responsibility **3 cr.**
Business ethics; the relationship of business with society; stakeholder relationships and the social responsibility of business to various constituencies; social, ethical and public

policy issues affecting business and the managerial approaches for dealing with these issues. Not open to students who have credit for former BUAD 380 or 480. Every semester. *Prerequisite: 42 credits.*

MGMT 425 Entrepreneurial Business Plan **3 cr.**
Opportunity assessment and feasibility analysis, as well as implementation, deal structure and operations for entrepreneurially-minded FSU students. Each topic is approached from a pragmatic perspective. Class discussions and assignments are based upon live experiences. The lecture, the readings, and the speakers all reflect that purpose. Spring. *Prerequisite: MGMT 315.*

MGMT 450 International Management **3 cr.**
Study of international and comparative management theories, concepts and practices; managing in a global environment, cross-cultural management practices, managing human resources in international corporations, unique challenges in managing multinational organizations, and contemporary issues facing global managers. Spring. *Prerequisite: INTR 330.*

MGMT 452 Staffing and Development **3 cr.**
The role of human resource professionals at every stage of the employment process from prehiring to postfiring, staffing policies, internal and external recruitment, HR development strategies and training program development, career management, outplacement programs. Fall. *Prerequisite: MGMT 357.*

MGMT 456 Compensation Management **3 cr.**
The principles of compensation management, job analysis and evaluation, establishment and administration of pay systems, employee benefits, executive compensation. Fall. *Prerequisite: MGMT 357.*

MGMT 457 Labor Relations **3 cr.**
The role of management and unions in our society, labor-management problems and their resolution, the collective bargaining process, the legal framework of labor-management relations, administration of the labor contract. Every semester. *Prerequisite: MGMT 357 or major in Law and Society.*

MGMT 485 Business Policy and Strategy **3 cr.**
Strategy and policy formulation and implementation; effects on various levels of management. Integrating the functions of the enterprise within the social, political, legal and economic environment. A case-study approach requiring both written and oral presentations of case problems. Every semester. *Prerequisites: 90 credits and 18 hrs. of business administration, including : a grade of C or better in MGMT 351, MKTG 361, and FINA 370 or FINA 476. Accounting, General Management, Human Resource Management, International Business, Small Business/Entrepreneurship Capstone.*

MGMT 490 Special Topics in Business Administration - Management **3 cr.**
A detailed study of a limited topic, problem, or period. Topics vary from semester to semester. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisites: 90 credits and 18 hrs. of business administration course work.*

MGMT 494 Internship in Management **3 or 6 cr.**
Guided work experience in management for business, nonprofit or government organizations. Minimum of 135 clock hours of experience for 3 credits (270 hours for 6 credits). Academic components include, but not limited to, one internship paper, internship log and site supervisor's evaluation of the student's performance. Previous experience not acceptable for credit. Repeatable for maximum of 6 credits. Every semester and summer. *Prerequisites: Junior or senior standing; department chair's approval.*

MGMT 499 Independent Study in Management **1 - 3 cr.**
Research and report on a specific topic not covered by regularly rostered courses. Topic will be defined by the student in conjunction with faculty sponsor. Proposals must be approved prior to registration. Repeatable for maximum of 4 credits. Every semester. *Prerequisites: 18 credits of business administration course work, 90 credits and permission of department chair.*

Marketing

You cannot receive credit for both a MKTG course and the same course formerly labeled BUAD.

MKTG 361 Principles of Marketing **3 cr.**
Introduction to marketing and the fundamentals involved in the marketing process. Functions, institutions, and channels of distribution of goods and services from producer to consumer; the components of marketing strategy and their interrelationships. Every semester. *Prerequisite: 29 credits.*

MKTG 363 Advertising **3 cr.**
Overview of advertising and sales promotion; their relation to social and economic systems. Processes for developing and implementing effective advertising programs, including promotional planning, media selection, and layout. Every semester. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 364 Merchandising **3 cr.**
Vital role of merchandise planning and process management, product placement, layout, customer service, and pricing. Special emphasis on forecasting, planning, evaluating, and presenting merchandise lines to meet target market demands in a retail environment. Fall of odd-numbered years. *Prerequisite: C or better in MKTG 361.*

MKTG 365 Professional Selling & Sales Management **3 cr.**
Fundamentals of professional selling including the selling process from preapproach to post-sale service. Emphasis both on the selling process and managing sales personnel, sales territories, and sales strategies. Fall. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 366 Consumer Behavior **3 cr.**
Concepts and theories of consumer behavior; psychological and sociological influences on consumers. The relation of these theories to marketing strategies; consumer behavior in the segmentation of markets. Every semester. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 460 International Marketing **3 cr.**
Study of the marketing function from an international perspective. Discussion of the cultural, legal, political and economic aspects of international marketing, in addition to international marketing policies and strategies. Comparison of markets and marketing techniques in the U.S. and foreign markets. Problems and techniques of export marketing are highlighted. Spring. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 462 Marketing Research **3 cr.**
The role of marketing research in the formulation and solution of marketing problems and the development of the student's basic skills in conducting and evaluating marketing research products. Special emphasis on problem formulation, research design, alternative methods of data collection (including data collection instruments, sampling and field operations) and data analysis techniques. Every semester. *Prerequisite: a grade of C or better in MKTG 361 and MATH 209/219/380.*

MKTG 465 Marketing Strategies **3 cr.**
Market analysis, product planning, channels of distribution, pricing and promotional decision making; analysis of environmental constraints and market opportunities. Every semester. *Prerequisites: a grade of C or better in MKTG 361 and MKTG 366.*

MKTG 466 Services Marketing **3 cr.**
Discussion of marketing theory and methods in the management of services. Elements of the service marketing mix are emphasized. Fall. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 467 Internet Marketing **3 cr.**
Use of the Internet for business, primarily from a marketing perspective. Examination of Internet structure, function and terminology; investigation of marketing strategies and business practices necessary for success in e-commerce; and study of the phenomena, issues and processes that make conducting business on the Internet unique. Spring. *Prerequisite: a grade of C or better in MKTG 361.*

MKTG 469 Marketing Plans Development 3 cr.
Development of complete and formal marketing plans for existing or new consumer products. Structure encompasses all aspects of a contemporary marketing plan from situational analysis through implementation and control. Every semester. *Prerequisites: MKTG 366, 462, 465. Marketing Capstone.*

MKTG 490 Special Topics in Business Administration - Marketing 3 cr.
A detailed study of a limited topic, problem, or period. Topics vary from semester to semester. Fall. *Prerequisites: 90 credits and 18 hrs. of business administration course work.*

MKTG 494 Internship in Marketing 3 or 6 cr.
Guided work experience in marketing with business, nonprofit, or government organizations. Minimum of 135 clock hours of experience for 3 credits or 270 for 6 credits. Academic components include but not limited to one internship paper for 3 credits or two internship papers for 6 credit hours, internship log, and site supervisor's evaluation of the student's performance. Previous experiences are not acceptable for credit. Maximum of 6 credit hours. A 6 credit Internship choice counts as one elective course. Repeatable for maximum of 6 credits. Every semester. *Prerequisites: junior or senior standing; department chair's approval.*

MKTG 499 Independent Study in Marketing 1 - 3 cr.
Research and report on a specific topic not covered by regularly rostered courses. Topic will be defined by the student in conjunction with faculty sponsor. Proposals must be approved prior to registration. Repeatable for maximum of 4 credits. Every semester. *Prerequisites: 18 credits of business administration course work, 90 credits and permission of department chair.*

Mass Communication

MCOM 100 Mass Communication Radio Workshop 1 cr.
Entry-level work experience in applying mass communication theories at radio station WFWM. Repeatable for maximum of 4 credits. May not be applied to fulfillment of major requirements. Variable. *Prerequisite: permission of instructor.*

MCOM 101 Mass Communication Television Workshop 1 cr.
Hands-on television experience. Serve as technical personnel for student-produced newscast. Repeatable for maximum of 4 credits. May not be applied to fulfillment of major requirements. Variable.

MCOM 105 Introduction to Mass Communication 3 cr
Historical evolution of today's media industries and career paths. Emphasis on contemporary issues affecting those industries and careers. Consideration given to emerging media, required skills, including professional expectations, standards, ethical considerations, and social impacts. Every semester.

MCOM 150 Introduction to Radio 3 cr.
Study of radio in the United States, both AM and FM, with presentations on the basic electronics, operation, regulation, staffing and selling. Variable.

MCOM 213 Audio Production 3 cr.
Examines the theories and technology used in audio production for music, radio, TV, and film. Provides students with a useful vocabulary and the basic theory upon which production skills can be built. Two hrs. lecture, 2 hrs. lab. Every semester.

MCOM 246 Intro to Mass Communication Research Methods 3 cr.
Introduction to methods employed in both theoretical and applied research in Mass Communication. Basic assumptions, strengths, weaknesses in quantitative, qualitative, historical, critical cultural methods. Application of methods in theory development and industry decisions. Every semester. *Prerequisite: MCOM 105.*

MCOM 250 Announcing and Performance 3 cr.
Development of skills required of the individual performer in the preparing, announcing, and narrating of various types of materials for audio and video formats. Variable.

MCOM 287 Introduction to Video Production 3 cr.
Principles and practices of video field production. Focus on visual composition, lighting and sound, production, planning and operation of portable video recording equipment. Emphasis on shooting and editing for broadcast, non-broadcast and multimedia applications. Not open to students who have credit for MCOM 311. Two hrs. lecture, 2 hrs. lab. Every semester.

MCOM 301 Multi-Media Workshop 3 cr.
Techniques in creating multimedia content. Digital audio/video editing techniques and streaming media techniques and practices considered. Variable. *Prerequisite: MCOM 287 and MCOM 213.*

MCOM 313 Advanced Audio Production 3 cr.
Development of advanced skills in multiple aspects of audio production. Recording and mastering various types of audio projects. Utilization of digital editing equipment and CD authoring techniques. Fall. *Prerequisite: MCOM 213 or permission of instructor.*

MCOM 316 Electronic Media Management 3 cr.
A study of problems of organization and management of radio and television stations with attention to problems of programming, sales, public relations, governmental agencies, and audiences. Also a consideration of regulatory, station, personnel, and affiliation restraints upon decision-making in management. Variable. *Prerequisite: MCOM 105.*

MCOM 326 Writing for Electronic Media 3 cr.
Fundamentals of media and multi-media writing; vocabulary, syntax, organizing ideas according to industry needs. Sound message versus print message; print versus electronic writing. Every semester. *Prerequisite: MCOM 105.*

MCOM 336 Broadcast-Cable Programming 3 cr.
Study of the general theoretical principles of scheduling and selecting programming for broadcasting, cable, and internet uses. An examination of general programming principles and practices, regulatory constraints upon programming, the nature and interpretation of ratings and their influence upon programming. Variable. *Prerequisite: MCOM 105.*

MCOM 346 Mass Communication Theory 3 cr.
Theories of the process of mass communication, how media affect society, the evolution within a social and cultural context, ethical and social dimensions. Extensive reading in theory, history, and research. Every semester. *Prerequisites: MCOM 105 and MCOM 246.*

MCOM 350 Beginning Television Screenwriting 3 cr.
Introduction to and overview of the elements of theme, plot, character and dialogue in dramatic writing for television. Exercises in episodic research, story creation, pitching and drafting and the application of each step to the development of the student's dramatic writing. By the end of the course, each student will have completed a "spec" script for a current television drama to use as a writing sample suitable for submission to festivals, agents, managers and producers. Variable.

MCOM 387 Multi-Camera Studio Production 3 cr.
Survey of professional uses of video production, including television, corporate video, web-based video and educational video. Introduction to the production process, shooting techniques, digital editing techniques and Internet streaming. Not open to students who have credit for MCOM 212. Two hrs. lecture, 2 hrs. lab. Fall. *Prerequisite: MCOM 287.*

MCOM 447 Telecommunications Law 3 cr.
Survey of both constitutional and administrative laws, regulations and public policies that govern the United States' telecommunication systems. Every semester. *Prerequisites: MCOM 105, 60 hours and good academic standing, or permission of instructor.*

MCOM 456 Creative Strategies in Advertising and Media Buying 3 cr.
Investigation of how effective advertising campaigns are mounted by agencies. Creative strategies emphasized. A campaign for a new product is researched, designed, and presented by students. A basic understanding of media placement, rates and rate cards included. Variable. *Prerequisites: MCOM 105 and MCOM 246 or permission of the instructor.*

MCOM 465 Music Promotion and Production 3 cr.
Students will apply promotion and production skills to a real world situation by organizing, promoting and producing a full-length audio CD. Students will also organize and promote a live concert featuring artists from the CD. Repeatable for maximum of 6 credits. Spring. *Prerequisite: permission of instructor.*

MCOM 485 Electronic Media Aesthetics and Criticism **3 cr.**
Study of the aesthetic principles guiding development of electronic media products. Examination of approaches to analyzing and critiquing media products. Critical viewing and analysis of media texts. Emphasis on aural and visual media: radio, television and film. Every semester. *Prerequisites: MCOM 105 and a C or better in GEP Advanced Writing (Core Skill 2) or permission of instructor.*

MCOM 486 Current Issues and New Technologies in Mass Comm. **3 cr.**
Examines a variety of new and emerging telecommunications technologies. Considers the historical and ethical impacts of these technologies on the media; issues and economics driving the implementation of these technologies; and their adoption and use by consumers. Every semester. *Prerequisites: MCOM 105, MCOM 246 and MCOM 346.*

MCOM 487 Advanced Video Production **3 cr.**
Combines studio and field production elements. Emphasis on advanced production, editing, and post-production techniques. Two hrs. lecture, 2 hrs. lab. Spring. *Prerequisites: MCOM 287, MCOM 387 or permission of instructor.*

MCOM 488 Multi-Camera Field Production **3 cr.**
Techniques and skills necessary to utilize multi-cameras in a variety of field productions. Two hrs. lecture, 2 hrs. lab. Every semester. Repeatable for a maximum of 6 credits if roles are substantially different. *Prerequisites: MCOM 287, MCOM 387 or permission of instructor.*

MCOM 490 Special Topics in Mass Communication **3 cr.**
Research or applied experience on an announced selected topic. Repeatable if topics are substantially different. Variable. *Prerequisite: permission of instructor.*

MCOM 492 Internship Project **3 cr.**
Academic component of internship experience, in conjunction with MCOM 495. You can earn no more than 18 credits of internship hours (MCOM 492 *and* MCOM 494 *and* MCOM 495 combined) during your academic career. Graded A through F. Every semester. *Corequisite: MCOM 495.*

MCOM 494 Mass Communication Internship **1 to 3 cr.**
Supervised field experience for Mass Communication majors. Participation in the communication operations of a commercial, governmental, or educational organization. You can earn no more than 18 credits of internship hours (MCOM 492 *and* MCOM 494 *and* MCOM 495 combined) during your academic career. Every semester. *Prerequisites: Junior/senior status, declared major in mass communication, minimum 12 cr. in mass communication and 2.5 overall GPA or permission of instructor; Internship Agreement Form approved by department internship director before registering. Students should not contact prospective internship sites until they consult with their advisor.*

MCOM 495 Extended Internship **3, 6, 9 or 12 cr.**
Supervised field experience for Mass Communication majors. Participation in the communication operations of a commercial, governmental or educational organization. Graded P/F. You can earn no more than 18 credits of internship hours (MCOM 492 *and* MCOM 494 *and* MCOM 495 combined) during your academic career. Every semester. *Corequisite: MCOM 492. Prerequisites: junior/senior status, declared major in mass communication, minimum 12 cr. in mass communication and 2.5 overall GPA or permission of instructor; Internship Agreement Form approved by department internship director before registering. Students should not contact prospective internship sites until they consult with their advisor.*

MCOM 498 Senior Seminar in Mass Communication **3 cr.**
An integrated experience that requires students to use their accumulated skills and knowledge. Integration of previous course material and reflections on one's own experiences in the field is expected. Priority given to students who need the course to graduate in the semester registered. Every semester. *Prerequisites: 75 credits, 2.0 overall GPA and approved focus or minor or permission of instructor. Capstone.*

MCOM 499 Directed Study **1 to 6 cr.**
Intensive study through faculty-directed projects or papers. Hours arranged. Every semester. Repeatable for maximum of 9 credits. No more than 6 hours can be counted toward one professional focus. *Prerequisite: permission of Department Chair.*

Mathematics

DVMT 095 Pre-Algebra Mathematics **3 cr.**
Primary focus is to improve students' basic math skills. Concepts of arithmetic, geometry, units of measure, and elementary algebra. *Students may not withdraw unless withdrawing from the university*. Completion of this course will meet the prerequisites for MATH 104, MATH 209 or DVMT 100. Graded P/F. Every semester. Does not fulfill Core Skill 3, nor may the credits be used to fulfill the 120 hr. minimum toward graduation. *MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR MAJOR OR MINOR IN MATHEMATICS. Note: Students are placed in this course based upon results of Mathematics Placement Test administered by the University. Students who fail this course on their second attempt or thereafter will be academically dismissed.*

DVMT 100 Intermediate Algebra **3 cr.**
Introduction to the fundamental aspects of algebra, including properties of the real number system; integer arithmetic; operations with positive and negative exponents; variables and linear equations; graphing; second degree equations; factoring; operations with positive, negative, and fractional exponents; and quadratic equations. Completion of this course will meet the prerequisites for MATH 102, 103, and 106. Graded P/F. Every semester. Does not fulfill Core Skill 3, nor may the credits be used to fulfill the 120-hr. minimum toward graduation. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or DVMT 095.*

MATH 102 College Algebra **3 cr.**
Functions and their graphs; inverse functions; solutions of equations and inequalities; polynomial and rational functions; exponential and logarithmic functions; systems of equations and matrices. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or DVMT 100. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 103 Trigonometry **3 cr.**
Trigonometric functions; radian measure; polar coordinates; variation and graphs of trigonometric functions; solution of triangles, trigonometric identities and equations; inverse trigonometric functions; complex numbers. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or DVMT 100. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 104 Introduction to Mathematical Problem Solving **3 cr.**
Introduction to problem solving with emphasis on strategies applied to algebra, geometry, and data analysis. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or DVMT 095. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 106 Algebra with Calculus for Business **3 cr.**
Intended for students in Business and Accounting. Topics in basic and intermediate algebra, with an introduction to calculus from a computational and intuitive point of view: linear, quadratic, exponential and logarithmic functions; matrices; derivatives and antiderivatives. Applications to Business emphasized. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or DVMT 100. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 120 Pre-Calculus Mathematics **3 cr.**
Topics needed for the study of calculus: functions, analytic geometry, and selected topics from algebra and trigonometry. For students who plan to study the sequence MATH 236, MATH 237, MATH 238. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or a C or better in MATH 102. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 200 An Introduction to Discrete Mathematics **3 cr.**
An introduction to discrete mathematical methods in computer science. Topics include number systems; sets; functions; relations; logic; boolean algebras; methods of proof; combinations; linear algebra; graphs; trees. Variable. *MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATHEMATICS

MATH 206 Problem Solving for Elementary Teachers I **3 cr.**
Heuristics of problem solving; set theory; functions; estimation; measurement; numeration systems; rational numbers; and elementary number theory. Emphasis on students constructing and expanding their mathematical knowledge using modern technologies and pedagogies to investigate questions and solve problems. Learning activities include collecting and analyzing data from simple experiments, identifying mathematical models for the data, and using these models to make predictions which can then be tested. Admission priority will be given to Early Childhood Education and Elementary Education majors. Every semester. *Prerequisite: a grade of C or better in either MATH 102 or MATH 209. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 207 Problem Solving for Elementary Teachers II **3 cr.**
A continuation of MATH 206. Basic concepts of geometry, including measurement ideas, probability, and statistics. Technological tools such as spreadsheets, geometric software, and statistical packages will be used. Admission priority will be given to Early Childhood Education or Elementary Education majors. Every semester. *Prerequisite: C or better in MATH 206. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 209 Elements of Applied Probability and Statistics **3 cr.**
For the non-math major; less rigorous than MATH 380. Elementary probability theory; collection, organization, and analysis of data; descriptive statistics; the normal and binominal distributions; introduction to inferential statistics; and applications. Every semester. *Prerequisite: a passing score on the Mathematics Placement test administered by the University or DVMT 095. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 219 Honors: Elements of Appl. Probability & Statistics **3 cr.**
Introduction to statistics, with emphasis on probability theory and inferential statistics. More rigorous and broader than MATH 209. Use of the computer as a tool in statistical analyses. Probability theory; sampling distributions; estimation; hypothesis testing; parametric and nonparametric tests; correlation; regression; and analysis of variance. Written research project required. Credit cannot be earned for both MATH 209 and MATH 219. Spring. *Prerequisite: acceptance into the University Honors Program or permission of the instructor. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 220 Calculus for Applications I **3 cr.**
An applications-oriented approach to differential and integral calculus, for the student who desires a course more intuitive than Calculus I, II, III. Credit may not be earned for both MATH 220 and MATH 236 or MATH 226. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or a C or better in MATH 102. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 221 Calculus for Applications II **3 cr.**
Continuation of MATH 220. Credit may not be earned for both MATH 221 and MATH 237 or MATH 227. *MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 236 Calculus I **4 cr.**
Limits and continuity, the derivative, antiderivatives and definite integrals. Credit may not be earned for both MATH 236 and MATH 226. Every semester. *Prerequisite: A passing score on the Mathematics Placement Test administered by the University or a grade of C or better in MATH 120. MAY BE USED TO FULFILL CORE SKILL 3.*

MATH 237 Calculus II **4 cr.**
Techniques and applications of integration, introductory differential equations, infinite series. Credit may not be earned for both MATH 237 and either MATH 227 or MATH 228. Every semester. *Prerequisite: a grade of C or better in MATH 236.*

MATH 238 Calculus III **4 cr.**
Vectors, functions of several variables, vector functions, partial derivatives, multiple integration, line and surface integrals. Credit cannot be earned for both MATH 238 and MATH 320. Every semester. *Prerequisite: a grade of C or better in MATH 237.*

MATH 340 Fundamental Concepts of Geometry **3 cr.**
Experimental and informal geometry; properties of plane and space figures; geometric constructions; proof. Variable. *Prerequisite: MATH 207. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 350 Linear Algebra I **3 cr.**
Systems of linear equations; matrices and linear transformations; determinants; and vector spaces. Fall. *Prerequisite: MATH 236 or MATH 220 or concurrent enrollment in MATH 236 or MATH 220.*

MATH 380 Introduction to Probability and Statistics **3 cr.**
Discrete probability theory with statistical applications. Counting techniques; random variables; distributions; expectations; hypothesis testing and estimation, with emphasis on discrete models. Spring.

MATH 415 Foundations of Mathematics **3 cr.**
Theory of sets; mathematical logic; methods of proof in mathematics; the real number system; selected topics. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 420 Advanced Calculus **3 cr.**
Limits; continuity; differentiation and integration extended to higher dimensional spaces. Topics from vector analysis and Fourier analysis. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238.*

MATH 425 Introduction to Real Analysis **3 cr.**
Topology of real numbers; sequences, cluster points, continuity, theory of differentiation and integration; elements of measure theory; infinite series. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238.*

MATH 426 Introduction to Complex Analysis **3 cr.**
Analytic functions; Cauchy's Theorem; Taylor and Laurent series; meromorphic functions; residue theory; conformal mapping. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238.*

MATH 432 Differential Equations **3 cr.**
Solution of ordinary differential equations; Laplace transforms; numerical methods; solution by series. Every semester. *Prerequisite: MATH 237.*

MATH 435 Numerical Analysis **3 cr.**
Elements of numerical methods frequently used in applied mathematics and the natural sciences; algorithms suitable for use in computers. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237 and COSC 240 or permission of the instructor.*

MATH 436 (also PHYS 436) Mathematical Physics **3 cr.**
Topics in mathematical methods: finite differences; Fourier series; partial differential equations; complex variables; and conformal mapping with physical applications. Spring, odd-numbered years. *Prerequisite: MATH 432 and PHYS 216 or PHYS 262, or permission of instructor.*

MATH 437 Combinatorics and Graph Theory **3 cr.**
General enumeration techniques; elements of graph theory; matrix representations of graphs; and applications of graph theory. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 440 Modern College Geometry **3 cr.**
An introductory synthetic study of geometry: finite, absolute, affine, Euclidean, hyperbolic, elliptic, and projective geometries. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 451 Modern Higher Algebra **3 cr.**
Basic study of the structure of groups and rings: isomorphism theorems; special kinds of rings; additional topics. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 452 Linear Algebra II **3 cr.**
Basic study of vector spaces and their relationships to matrix algebra: the algebra of linear transformations; linear functionals and dual spaces; inner product spaces; and decomposition theorems. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238 and MATH 350.*

MATH 460 Introductory Topology **3 cr.**
The topology of Euclidean space; homeomorphisms and quotient maps; connectedness; compactness; topological surfaces; simplicial complexes and surfaces; the Euler characteristic. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238.*

MATH 461 History of Mathematics **3 cr.**
Historical development of mathematics and its concepts. Contributions of individuals and societies to the development of mathematics. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 465 Theory of Numbers **3 cr.**
Divisibility; Diophantine equations; congruences; sums of squares; additional topics. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237.*

MATH 470 Mathematical Models and Applications **3 cr.**
Model-building processes; the assumptions underlying mathematical models; and the generation and interpretation of results from models. Theory and illustrative applications of modeling. Analyses of models constructed by students. Every three semesters beginning in spring 2003. *Prerequisites: MATH 237 or permission of instructor.*

MATH 480 Probability and Statistics **3 cr.**
A deeper study of probability and statistics than MATH 380. Continuous probability distributions and their statistical applications. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 238, MATH 380, or permission of instructor.*

MATH 481 Applied Regression Analysis **3 cr.**
A matrix approach to linear and multiple regression using the latest statistical packages. Selecting the best regression equation, model building, and linear model approach to ANOVA and ANCOVA. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 380 (or MATH 209).*

MATH 482 Applied Nonparametric Statistics **3 cr.**
Sign tests; tests based on ranking methods, including correlation and regression; nonparametric confidence intervals and point estimates; chi-square tests; and efficiency estimates. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 209 or MATH 219 or MATH 380.*

MATH 483 Theory of Interest **3 cr.**
Measurement of interest; solutions to problems in interest; elementary annuities; more general annuities; amortization schedules and sinking funds; bonds and other securities; and other miscellaneous topics. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 237. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 484 Actuarial Mathematics I **3 cr.**
Survival distributions and life tables; life insurance; life annuities; net premiums; and net premium reserves. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 483.*

MATH 485 Actuarial Mathematics II **3 cr.**
Multiple life functions; multiple decrement models; valuation theory for pension plans; nonforfeiture benefits. Variable. See department secretary for up-to-date schedule. *Prerequisite: MATH 484. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 490 Selected Topics in Mathematics **3 cr.**
A specialized topic or recent development in mathematics. May be taken more than once if the topics are substantially different. Does not duplicate any other course offered by the Department of Mathematics. Repeatable for maximum of 6 credits if topics are substantially different. Fall, odd-numbered years. *Prerequisite: MATH 238 or permission of instructor.*

MATH 491 Seminar in Mathematics **3 cr.**
Individual reports and group discussions on mathematical topics and applications; review of important topics in the undergraduate curriculum; assessment exam. Written report and presentation required. Fall. Mathematics majors only. *Prerequisites: senior status or permission of instructor. Capstone.*

MATH 492 Internship Seminar **3 cr.**
Academic component of internship. Requires co-registration in MATH 495. Graded A-F.

MATH 495 Internship in Mathematics **6 or 12 cr.**
Experiential component of internship: guided work experience in conjunction with MATH 492; must directly relate to academic program. Full-time interns register for 12 credits in MATH 495 and 3 credits in MATH 492 and may not enroll in other courses. Part-time interns register for 6 credits in MATH 495 and 3 credits in MATH 492. Graded P/F. *Prerequisites: good academic standing; submission of Internship Agreement form to internship director prior to registering; completion of MATH 236, 237, 238, and four math courses at 300 or 400 level (or enrollment in the fourth 300 or 400 math course) at time of applying; GPA of at least 3.0 in math; and any requirements of the sponsoring agency. MAY NOT BE USED TO SATISFY THE REQUIREMENTS FOR A MAJOR OR MINOR IN MATHEMATICS.*

MATH 499 Individual Study in Mathematics **1-3 cr.**
Individual research performed under supervision, culminating in a written paper or completed project. Repeatable for maximum of 6 credits if topics are substantially different. Enrollment by permission of the department.

Music

Music Theory

MUSC 100 Introduction to Music Theory **2 cr.**
Primary focus is to improve students' basic knowledge of Music Theory to progress into the Music Theory (MUSC 102) and Aural Skills (MUSC 104) sequence. May not be used to satisfy requirements for the music major or minor. Note: Students are placed in this course based upon results of a Music Theory Placement Exam given by the Department of Music. Spring.

MUSC 101 Music Fundamentals **2 cr.**
The rudiments of music designed for non-music majors. Every semester.

MUSC 102 Theory I **3 cr.**
Introduction to the fundamentals of music theory including rhythm, scales, intervals, voice leading and harmony. Introduction to MIDI notational and sequencing software. Required for music majors and minors. Note: Students are placed in this course based upon results of a Music Theory Placement Exam given by the Department of Music. Fall. *Prerequisite: concurrent enrollment in Aural Skills I, MUSC 104, except by permission of instructor.*

MUSC 103 Theory II **3 cr.**
Continuation of MUSC 102, with further emphasis on the development of analysis and written work. Continued use of MIDI notational and sequencing software. Required for music majors and minors. Spring. *Prerequisites: MUSC 102 and MUSC 104 or permission of instructor. Concurrent enrollment in Aural Skills II, MUSC 105, except by permission of instructor. Tech. fluency.*

MUSC 104 Aural Skills I **1 cr.**
Development of aural skills through sight singing and melodic and harmonic dictation. Computer-assisted lab assignments. Required for music majors and minors. Meets 100 minutes per week. Fall. *Prerequisite: Concurrent enrollment in Theory I, MUSC 102, except by permission of instructor.*

MUSC 105 Aural Skills II **1 cr.**
Continuation of MUSC 104 with further emphasis on aural skills through sight singing and melodic and harmonic dictation. Computer-assisted lab assignments. Required for music majors and minors. Meets 100 minutes per week. Spring. *Prerequisites: MUSC 102 and MUSC 104 or permission of the instructor. Concurrent enrollment in Theory II, MUSC 103, except by permission of the instructor.*

MUSC 204 Theory III **3 cr.**
A continuation of MUSC 102 and 103, exploring chromatic harmony and modulation. Written and analytical applications. Continued use of MIDI notational and sequencing software. Required for music majors. Fall. *Prerequisites: MUSC 103 and MUSC 105 or permission of instructor. Concurrent enrollment in Aural Skills III, MUSC 206, except by permission of instructor.*

MUSC 205 Theory IV **3 cr.**
Further application of chromatic materials with an emphasis on 20th century techniques. Written and analytical applications. Continued use of MIDI notational and sequencing software. Required for music majors. Spring. *Prerequisites: MUSC 204 and MUSC 206 or permission of instructor. Concurrent enrollment in Aural Skills IV, MUSC 207, except by permission of instructor.*

MUSC 206 Aural Skills III **1 cr.**
Continuation of MUSC 103 and MUSC 105 with further emphasis on aural skills through sight singing and melodic and harmonic dictation. Computer-assisted lab assignments. Required for music majors. Meets 100 minutes per week. Fall. *Prerequisites: MUSC 103 and MUSC 105 or permission of the instructor. Concurrent enrollment in MUSC 204, Theory III, except by permission of the instructor.*

MUSC 207 Aural Skills IV **1 cr.**
Continuation of MUSC 206 with further emphasis on aural skills through sight singing and melodic and harmonic dictation. Computer-assisted lab assignments. Required for music majors. Meets 100 minutes per week. Spring. *Prerequisites: MUSC 204 and MUSC 206 or permission of the instructor. Concurrent enrollment in MUSC 205, Theory IV, except by permission of the instructor.*

MUSC 305 Orchestration **2 cr.**
Study of ranges, tonal possibilities, technical limitations and necessary transpositions for all orchestral and band instruments; scoring of short pieces in various styles for orchestra. Variable. *Prerequisite: MUSC 205.*

MUSC 356 Computer Music Technology **2 cr.**
Practical approach to the use of various music applications computers, Musical Instrument Digital Interface synthesizers and associated software (sequencer and notational). Designed to give students an introductory survey of computer music technology as it applies to performance and academic areas within the field of music. Classes are laboratory in nature, held in the Electronic Music Lab. Variable. *Prerequisite: permission of the Department.*

MUSC 401 Form and Analysis **3 cr.**
Analysis of musical structure and style in Western civilization. Variable. *Prerequisite: MUSC 205.*

MUSC 407 Counterpoint **2 cr.**
A stylistic approach to the study of counterpoint based on the harmonic-contrapuntal style of J.S. Bach as found in his Two-and Three-Part Inventions, Well-Tempered Clavier and choral preludes. Variable. *Prerequisite: MUSC 205.*

Music History and Literature

MUSC 110 Introduction to World Music **3 cr.**
Introduction to the style periods and genres of Western Classical music through the significant literature of the major male, female and minority composers; survey of selected non-Western music cultures; folk, gospel and jazz music. Every semester. *GEP Group A.*

MUSC 117 Music of Africa, Asia and the Americas **3 cr.**
Introduction to musical traditions and practices of various African societies, China, India, Indonesia, Japan and Latin-influenced countries in Central and South America (including Caribbean nations). Every semester. *GEP Group A or F.*

MUSC 250 Women in Music **3 cr.**
An examination of popular and art music by and from the perspective of women. Topics include women as performers and composers, the depiction of women in music, musical criticism and cultural values that have affected women's participation in musical life. Variable. *GEP Group F.*

MUSC 308 Music History I: Music of the Medieval, Renaissance and Baroque Periods **3 cr.**
A survey of musical style from Gregorian chant through the Baroque period. Analysis, listening, discussion set in a cultural context. Fall. *Not recommended for freshmen.*

MUSC 309 Music History II: Music of the Classical, Romantic and Modern Periods **3 cr.**
A survey of musical style from the Classical through the Modern periods. Analysis, listening, discussion set in a cultural context. Spring. *Not recommended for freshmen.*

MUSC 346 The Opera **3 cr.**
Representative operas from 1600 to the present. Variable. *Prerequisite: permission of instructor.*

Music Teaching

MUSA 213 Piano Pedagogy **2 cr.**
A methods and materials course for those preparing for piano studio teaching. *Prerequisite: permission of instructor.*

MUSC 310 Basic Principles of Conducting I - Choral **3 cr.**
Introduction to the basics elements of choral and instrumental conducting. Involves study and practice of techniques of conducting, including conducting patterns, methods of interpretation, rehearsal techniques, performance practice and style, and score analysis. Emphasis on choral, combined choral and instrumental scores. Required for all Performance Specializations and P-12 Teacher certification option majors. Fall. *Prerequisite: MUSC 205 or permission of instructor.*

MUSC 350 Music and Creative Interaction for the Elementary Classroom Teacher **3 cr.**
Classroom use of music skills for children from pre-school through sixth grade. Emphasizes the elements and skills of music and provides opportunity to develop and apply teaching strategies to the teaching of music through moving, singing, listening, playing, reading, creating and creative interaction. Designed for the elementary education major. Every semester. *Prerequisite: sophomore standing.*

MUSC 352 Choral Music Methods K-12 **2 cr.**
Materials and techniques of choral instruction, computer-assisted instruction and integrated technology, and performance at all levels of public schools. Required of voice and piano majors in teacher education. Spring. *Prerequisites: MUSA 287 and MUSA 415.*

MUSC 353 Instrumental Music Methods K-12 **2 cr.**
Materials and techniques of instrumental instruction, computer-assisted instruction and integrated technology, and performance at all levels of public schools. Required of all instrumental majors in teacher education. Spring. *Prerequisites: MUSA 287 and MUSA 415.*

MUSC 358 The Business of Music & Arts Management **3 cr.**
Provides an in-depth overview of the field of Music Business and Arts Management. Management theory and practice as it is applied in the world of the arts. Mission and vision, organizational structure and leadership, facilities design and planning, technology and the arts, marketing and promotion, operations, development, legal issues and arts advocacy. Fall.

MUSC 360 Special Topics in Music **1-2 cr.**
A focused, in-depth study on a musical topic. Does not duplicate any other course offered by the Department. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: permission of Department Chair.*

MUSC 410 Basic Principles of Conducting II - Instrumental **2 cr.**
A continuation of Basic Principles of Conducting I. Emphasizes baton technique, score reading and analysis, and rehearsal procedures. Emphasis on instrumental scores. Required for P-12 certification. Spring. *Prerequisite: MUSC 310.*

MUSC 411 Marching Band Techniques **2 cr.**
The techniques of show planning, preparation, presentation: precision movement, music selection and arranging. Fall. *Prerequisite: permission of instructor.*

MUSC 413 Vocal Pedagogy **2 cr.**
The various schools of vocal technique. Designed to prepare the prospective teacher of private and class voice. Spring, alternate years. *Prerequisites: minimum of 2 yrs. of vocal study and the ability to play simple piano accompaniments.*

MUSC 492 Senior Project Paper **3 cr.**
Academic component of internship experience, in conjunction with MUSC 495. Graded A-F. Every semester. *Prerequisites: MUSA 287 and MUSA 415; senior standing, concurrent enrollment in MUSC 495 and permission of instructor. Music Management Capstone.*

MUSC 495 Internship in Music Management **6-9 cr.**
Guided work experience with an academic component. Work must be directly related to academic program. Students may not enroll in other courses without permission. Must be taken concurrently with MUSC 492 Senior Project Paper. Graded P/F. Every semester. *Prerequisites: MUSA 287 and MUSA 415; senior standing, concurrent enrollment in MUSC 492 and permission of instructor.*

MUSC 499 Individual Research in Music **1-6 cr.**
Intensive individual study in an area of special interest under the direction of a faculty member. Repeatable for maximum of 6 credits. Variable. *Prerequisites: MUSA 287 and MUSA 415; permission of Department Chair.*

Applied Music

MUSA 101 Student Recital Attendance **.5 cr.**
Experience in musical performance and literature through concert attendance. Required for all music majors and minors. Repeatable for credit each semester of enrollment. Every semester.

MUSA 104 Class Piano I **1 cr.**
Basics of keyboard technique for students with little or no piano experience. Designed to lead toward successful completion of the piano proficiency examination (MUSA 415). Meets 100 minutes per week. Fall. *Prerequisite: permission of instructor; enrollment preference given to music majors/minors*.

MUSA 105 Class Piano II **1 cr.**
Continuation of MUSA 104. Designed to lead toward successful completion of the piano proficiency examination (MUSA 415). Meets 100 minutes per week. Spring. *Prerequisite: MUSA 104 or permission of instructor; enrollment preference given to music majors/minors.*

MUSA 106 Class Voice I **1 cr.**
Fundamentals of voice production: breath management, resonance, and diction. Individual voice diagnosis and application of vocal principles. Vocal exercises and song literature for the development of a singing technique. Meets 100 minutes per week. Variable. *Prerequisite: permission of instructor.*

MUSA 107 Class Voice II **1 cr.**
Continuation of MUSA 106. Meets 100 minutes per week. Variable. *Prerequisite: MUSA 106 or permission of instructor.*

MUSA 108 Class Instruments I: Strings **1 cr.**
Class instruction in the standard string instruments, designed to prepare future instrumental teachers at all levels of the public schools. Meets 100 minutes per week. Fall. *Prerequisite: permission of instructor; enrollment preference given to music majors/minors.*

MUSA 111 Class Guitar I **1 cr.**
Fundamentals of guitar technique for students with little or no guitar or music experience. Music reading, rudiments of theory, melodic playing and accompaniment. Students provide their own instrument. Meets 100 minutes per week. Fall.

MUSA 112 Class Guitar II **1 cr.**
For students who read music and have had some previous experience with the guitar. Melodic and accompaniment styles. Meets 100 minutes per week. Spring. *Prerequisite: MUSA 111 or permission of instructor.*

MUSA 116-123 Private Instruction **1 cr.**
Individual instruction in voice, piano, organ, strings, guitar, woodwinds, brass or percussion as a minor performance specialty; 30-minute lesson each week. Repeatable for credit each semester of enrollment. Performance for a faculty jury at the end of each semester in lieu of a final examination. Every semester. *Prerequisites: concurrent enrollment in an ensemble (MUSC 315, 319, 327, 329, 330, 331, 335, 336, 337, 339, or 340); permission of instructor; audition required.*

MUSA 208 Class Instruments III: Woodwinds **1 cr.**
Class instruction in the standard woodwind instruments, designed to prepare future instrumental teachers at all levels of the public schools. Meets 100 minutes per week. Fall. *Prerequisite: permission of instructor; enrollment preference given to music majors/minors.*

MUSA 209 Class Instruments IV: Brass **1 cr.**
Class instruction in the standard brass instruments, designed to prepare future instrumental teachers at all levels of the public schools. Meets 100 minutes per week. Spring. *Prerequisite: permission of instructor; enrollment preference given to music majors/minors.*

MUSC 210 Diction for Singers **2 cr.**
Acquaints students with the symbols and sounds of the International Phonetic Alphabet and with the application of the IPA to the English, French, German, Italian, Latin and Spanish languages. Differences between spoken and sung languages explored and physical processes required to produce the various sounds investigated and practiced. (Required for vocal performance and choral education majors.) Fall.

MUSA 287 Sophomore Evaluation **0 cr.**
Sophomore review that demonstrates musical performance and academic ability to continue in the major. Perform two or three contrasting works for the music faculty. Required of all music majors. Repeatable 1 time. Graded P/F. Every semester. *Prerequisites: permission of instructor, completion of MUSC 205, MUSC 207 and MUSA 415*.

MUSA 311 Class Instruments V: Percussion **1 cr.**
Class instruction in the standard percussion instruments, designed to prepare future instrumental teachers at all levels of the public schools. Meets 100 minutes per week. Spring. *Prerequisite: permission of instructor; enrollment preference given to music majors/minors.*

MUSA 356-363 Private Instruction **2 cr.**
Individual instruction in voice, piano, organ, strings, guitar, woodwinds, brass or percussion as a major performance specialty; 60-minute lesson each week. Music majors are required to perform in at least one student recital. Performance for a faculty jury at the end of each semester in lieu of a final examination. Repeatable for credit each semester of enrollment. Every semester. *Prerequisites: concurrent enrollment in an ensemble (MUSC 315, 319, 327, 329, 330, 331, 335, 336, 337, 339 or 340); permission of instructor; audition required.*

MUSA 390 Junior Recital **1 cr.**
Junior Recital for the Bachelor of Arts or Science Music Degree. Preparation and performance of the junior recital. Graded P/F. Every semester. *Prerequisites: MUSA 287 and MUSA 415, and junior recital clearance. All students must be concurrently enrolled in MUSA 300-level private instruction.*

MUSA 415 Piano Proficiency Exam **0 cr.**
Successful demonstration of functional keyboard skills for Music Teaching Certification, Performance and Music Management majors. Includes technical facility, sight-reading, transposition, improvisation and prepared repertoire. Required for all music majors for admission to upper division courses. Scheduled by appointment. Pass/Fail only.

MUSA 490 Senior Recital **1 cr.**
Senior Recital for the Bachelor of Arts or Science Music Degree. Preparation and performance of the senior recital. Performance majors must also have successfully completed their junior recital (MUSA 390). Graded P/F. Every semester. *Prerequisites: MUSA 287 and MUSA 415 and senior recital clearance. Must be concurrently enrolled in MUSA 300-level private instruction. Vocal and Instrumental Performance, Music Teaching Capstone.*

Ensemble

Repeatable for credit each semester of enrollment.

MUSC 315 Piano Ensemble **1 cr.**
Study, rehearsal and performance of piano ensemble literature. Meets 100 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 319 University Chorale **1 cr.**
A select mixed chorus with repertory from all historical periods. Open to all students. Meets 150 minutes per week. Every semester.

MUSC 321 Opera Workshop **1 cr.**
Designed to enhance the vocal art by exploring different aspects of performance. The skills covered will culminate in the performance of opera scenes or a complete operatic performance. Meets 150 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 327 Concert Jazz Ensemble **1 cr.**
Performance of the standard jazz repertoire in a big band format. Meets 150 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 329 Marching Band **1 cr.**
Performs at home football games and regional exhibitions. Meets 150 minutes per week. Band camp prior to start of fall semester. Extra rehearsals on Friday and Saturday before home football games. Open to all students. Fall. *Prerequisite: permission of instructor; audition required*.

MUSC 330 Wind Ensemble **1 cr.**
Concert literature selected from both contemporary and traditional wind ensemble repertoire. Meets 150 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 331 Brass Ensemble **1 cr.**
Study, rehearsal and performance of brass literature. Meets 100 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 335 String Ensemble **1 cr.**
Study, rehearsal and performance of string literature – principally the string quartet. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 336 Guitar Ensemble **1 cr.**
Study, rehearsal and performance of guitar ensemble literature. Meets 100 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 337 Woodwind Ensemble **1 cr.**
Study, rehearsal and performance of woodwind instrument literature – principally clarinet, flute and saxophone quartets and woodwind quintets. Meets 100 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 339 Percussion Ensemble **1 cr.**
Study, rehearsal and performance of percussion ensemble literature. Meets 150 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

MUSC 340 Chamber Choir **1 cr.**
A highly select group of 24-32 singers performing a wide variety of choral literature designed to promote individual musicianship, advanced techniques and quality of ensemble. Significant number of performances each semester, both on and of campus. Meets 150 minutes per week. Every semester. *Prerequisite: permission of instructor; audition required.*

Nursing

NURS 401 Health Assessment **3 cr.**
Comprehensive holistic assessment theory and concepts, inclusive of physical, emotional, cultural, nutritional, spiritual, and social assessment skill sets. Specific skills include, but are not limited to, interviewing and history-taking skills, physical exam skills, and the identification of data-based health problems via integrated lab modules within the course. Summer. *Prerequisite: Admission to the RN-BSN program or HEED 200 and permission of the Program Coordinator.*

NURS 402 Nursing Research and Evidence-Based Practice **3 cr.**
Theory and methods of qualitative and quantitative research provide basic knowledge for reading and understanding nursing research. Theory and concepts of evidence-based nursing practice, including formulating a clinical problem, identifying sources of evidence, using clinical guidelines, disseminating evidence, and motivating for change based on scientific evidence. Fall. *Prerequisites: Admission to the RN to BSN program or MATH 209 and permission of Program Coordinator.*

NURS 403 Elements of the Professional Nursing Role **3 cr.**
Implementation of the professional nursing role within the rapidly changing healthcare system.Identifying shifting demographic and social trends while maintaining caring and compassionate values. Focuses on concepts such as patient-centered care; interdisciplinary collaboration; elements of safe, quality care; nursing diversity in roles, organizations, and culture; and finally professional identity and image. Spring. *Prerequisite: Admission to the RN to BSN program or permission of Program Coordinator.*

NURS 404 Nursing Informatics **3 cr.**
Introduction to nursing informatics as it applies to data, information, knowledge, and wisdom within the areas of administration, education, practice, and research. Basic informatics competencies will include day-to-day, safe, quality patient care; interdisciplinary collaboration; decision support systems and use-cases; workflow analysis and implementation; standardized terminologies; and privacy and security issues. Spring. *Prerequisites: Admission to the RN to BSN program. Tech. Fluency.*

NURS 405 Ethics in Contemporary Nursing Practice **3 cr.**
Application of ethical decision-making in current nursing practice. Critical elements consist of discovery of individual ethical viewpoint and framework including individual biases; principles and legal concepts; and examination of contemporary ethical issues such as genomics, patient and employee rights, healthcare ethics and organizational committees. Fall. *Prerequisites: Admission to the RN to BSN program.*

NURS 406 Leadership for Quality and Safety **3 cr.**
Examination of leadership skills necessary to understand and develop a culture of quality and safe patient care. Concepts include decision-making, conflict resolution, communication, motivation, organizational structure, resource management, quality improvement processes and instruments, and tools for safeguarding patients. These concepts form the basis for examination of quality improvement approaches, nurse sensitive indicators, and safety principles, in addition to national quality and safety initiatives. Summer. *Prerequisites: Admission to the RN to BSN program; prerequisite or co-requisite: MGMT 356.*

NURS 490 Special Topics in Nursing **1-6 cr.**
Exploration of specialized topics in nursing. Topics vary from semester to semester. Repeatable for a maximum of 6 credits if topics are substantially different. Every semester. *Prerequisites: Admission to the RN-BSN Program and permission of Program Coordinator.*

NURS 494 Population-Focused Nursing Practice **6 cr.**
Introduction to the role of the professional nurse in promoting health and preventing disease in the community health setting. Epidemiological, sociological, and environmental concepts examined with a focus on the health status of aggregates. Students will prepare a proposal for a clinical experience site in their community and work directly with a preceptor upon approval of the instructor and program coordinator. The course consists of a community health assessment/analysis in theory and 135 hours of Clinical Experience. 3 hrs. lecture, 9 hrs. clinical. Every semester. *Prerequisites: Admission to the RN-BSN Program and NURS 401, NURS 402, NURS 403, NURS 404, NURS 405, MGMT 356, NURS 406.*

NURS 496 Capstone Project **2 cr.**
Represents the synthesis of theoretical and clinical knowledge and skills for the professional baccalaureate-prepared nurse. Focuses on critical thinking, professional collaboration and community engagement in the planning and implementation of a project designed to meet an identified health need. Every semester. *Prerequisites: Admission to the RN-BSN Program and permission of the Program Coordinator; prerequisite or corequisite: NURS 494.*

NURS 499 Independent Study **1-6 cr.**
Independent study of specialized problems in nursing. Problems vary from semester to semester. Repeatable for a maximum of 6 credits if problems are substantially different. Every semester. *Prerequisites: Admission to the RN-BSN Program and permission of Program Coordinator.*

Orientation

ORIE 101 Introduction to Higher Education **1 cr.**
Orientation of incoming students to academic and social contexts of college life. Nature and process of higher education; educational and career planning; learning skills; support services. Required of all first-time students, including transfer students with fewer than 13 semester hours of transfer credit. Students may not withdraw from the course unless they are withdrawing from the University.

Philosophy

PHIL 101 Introduction to Philosophy **3 cr.**
Philosophical approaches to three major content areas: personal relationships (e.g., friendship), social-political structures (e.g., democracy), worldviews (e.g., the problem of God). Every semester. *GEP Group B.*

PHIL 102 Contemporary Ethical Problems **3 cr.**
Ethical issues such as abortion, euthanasia and physician-assisted suicide, the death penalty, censorship of pornography and hate speech, sex and marriage, social and economic justice, world hunger and global poverty, the environment, and the treatment of animals. Every semester. *GEP Group B.*

PHIL 111 Honors: Introduction to Philosophy **3 cr.**
Philosophical problems such as the meaning of existence, freedom and determinism, body versus mind, the existence of God, the human person and human relationships. Credit cannot be earned for both PHIL 101 and PHIL 111. Variable. *Prerequisite: acceptance into Honors Program or permission of instructor. GEP Group B*.

PHIL 201 Ethics **3 cr.**
Ethical theories or selected problems in moral philosophy (e.g., relativism versus absolutism, the nature of value judgments). Variable.

PHIL 202 History of Philosophy: Ancient and Medieval **3 cr.**
Classical western philosophy from the early Greeks to the Renaissance. Emphasis on Pre-Socratics, Plato, Aristotle, Augustine, and Aquinas. Fall.

PHIL 203 History of Modern Philosophy **3 cr.**
Western philosophy in the modern period; the rationalist tradition (Descartes, Spinoza, Leibniz) and the empiricist tradition (Locke, Berkeley, Hume); some reference to Kant. Spring.

PHIL 205 Logic **3 cr.**
A study of the forms of reasoning: inductive, deductive; fallacies. Variable.

PHIL 302 Philosophy of Religion **3 cr.**
A study of religious experience, religious language, and the question of a rational basis for religious belief. Variable. *Recommended: 3 cr. in philosophy.*

PHIL 303 Aesthetics **3 cr.**
Analysis of the nature of art and its creation, appreciation, and criticism; the major theories of art. Variable. *Recommended: 3 cr. in philosophy*

PHIL 304 Social Philosophy **3 cr.**
Issues arising out of the relationship between individuals and society. Themes such as social values, law, and the ideal of justice. Fall. *Recommended: 3 cr. in philosophy.*

PHIL 306 Philosophy of Science **3 cr.**
A study of the logical structure of the natural sciences. Topics such as the nature of scientific evidence, scientific explanation, and the objectivity of scientific knowledge. Variable. *Recommended: 3 cr. in philosophy*

PHIL 308 Political Philosophy **3 cr.**
Issues arising out of the relationship between individuals and the state. Issues associated with the ongoing transformation of national states and the relationship between the states, international finance and the global community. Themes such as power, authority, democracy, law, rights, political ideologies, globalization and terrorism. Variable. *Recommended: 3 cr. in philosophy. GEP Group F.*

PHIL 311 Asian and African Philosophy **3 cr.**
A study of the major concepts of Indian philosophy with an emphasis on Hinduism and Buddhism, Chinese philosophy with an emphasis on Confucianism and Taoism, and African philosophy with an emphasis on the community orientation of ethics and philosophical anthropology. Variable. *Recommended: 3 cr. in philosophy. GEP Group F.*

PHIL 313 Biomedical Ethics **3 cr.**
Ethical issues in medicine and biomedical research. Such problem areas as the physician/patient relationship, patients' rights and professionals' obligations, human experimentation, genetics and reproductive technologies, and social justice and health care. Spring. *Recommended: 3 cr. in philosophy.*

PHIL 314 Business Ethics **3 cr.**
Ethical issues in business. Such problem areas as the morality of capitalism, the social responsibility of business, the concept of corporate responsibility, business and the environment, the rights and responsibilities of employees, whistleblowing, the ethics of advertising, multinational corporations, feminist and minority concerns about business. Variable. *Recommended: 3 cr. in philosophy.*

PHIL 315 Philosophy and the Environment **3 cr.**
A philosophical investigation of environmental issues. Anthropocentric, ecocentric, individualist, and ecofeminist approaches to the environment as well as perspectives from many cultures and religions. Connections between environmental science, ethics, and aesthetics in a historical context will be made. Variable. *Recommended: 3 cr. in philosophy.*

PHIL 316 The Meaning of Life **3 cr.**
Issues concerning the meaning of life. Such issues as the various meanings of the phrase "the meaning of life," the dependence of a meaningful life on the existence of God and/or an afterlife, the absurdity of life, and how life ought to be lived. Variable. *Recommended: 3 cr. in philosophy.*

PHIL 318 Skepticism and the Search for Truth **3 cr.**
Investigation of fundamental issues concerning our ability to come to know the true nature of the world and the relation between our cognitive faculties and this world. Consideration not only of traditional answers from historical and contemporary authors, but also recent work challenging the traditional approach itself, including work in feminist epistemology and non-objectivist conceptions of knowledge. Variable. *Recommended: 3 cr. in philosophy*.

PHIL 409 Philosophy and Women **3 cr.**
Topics will include philosophical views of and by women, an examination of the extent to which gender related values underlie and permeate philosophical method and theory, and an examination of ways in which gender interrelates with other social categories such as race, ethnicity, and class. Variable. *Recommended: 3 cr. in philosophy or WMST 201. GEP Group F.*

PHIL 410 Philosophy of Law **3 cr.**
Leading issues in the philosophy of law. Such topics as the nature of law and its relation to morality, the concept of responsibility, and the justification of punishment. Highly recommended for those interested in the theory of legal concepts and legal reasoning. Spring. *Recommended: 3 cr. in philosophy.*

PHIL 451 Seminar in Existentialism **3 cr.**
Origins of existential thought in Kierkegaard and its subsequent development in Heidegger, Jaspers, Marcel, Sartre, Merleau-Ponty, and Ricoeur. Such concepts as existence, historicity, freedom, and consciousness. Credit cannot be earned for both PHIL 451 and PHIL 407. Variable. *Prerequisite: 15 cr. in philosophy or permission of instructor. Capstone.*

PHIL 452 Seminar in Contemporary Metaphysics **3 cr.**
Contemporary approaches to problems in both special and general metaphysics. Problems in special metaphysics such as free will, personal identity, mind-body, and immortality. Problems in general metaphysics such as universals, substance, change, and time. Credit cannot be earned for both PHIL 452 and PHIL 412. Variable. *Prerequisite: 15 cr. in philosophy or permission of instructor. Capstone.*

PHIL 455 Seminar in Philosophy **3 cr.**
An in-depth exploration in a seminar format of some area or philosophy of some philosophical problem or topic selected by the instructor. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: 15 cr. in philosophy or permission of instructor. Capstone.*

PHIL 490 Special Topics in Philosophy **3 cr.**
In-depth analysis of a topic, selected by instructor, for development thematically or historically. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Recommended: 3 cr. in philosophy.*

PHIL 492 Internship Project in Philosophy **3 cr.**
Academic component of internship experience; co-registration in PHIL 495 required. Mainly planning of the field experience, focusing on the philosophical/ethical issues associated with the work situation, and completion of a written report on the field experience. Graded A through F. Internship is optional and credit is not applicable toward the major or minor. Every semester and summer. *Prerequisites: junior or senior status, major in philosophy, and permission of department.*

PHIL 495 Internship in Philosophy **6-12 cr.**
Guided work experience; co-registration in PHIL 492 required. Directly related to academic program and intended to enhance the student's ability to navigate her/his way into the global workplace. Graded P/F. Internship is optional and credit is not applicable toward the major or minor. Every semester and summer. *Prerequisites: junior or senior status, major in philosophy, and permission of department.*

PHIL 499 Individual Research in Philosophy **1 to 6 cr.**
Independent study of a philosopher, period, movement, or problem, initiated by student in consultation with instructor. Repeatable for maximum of 6 credits. Variable. *Prerequisites: 12 cr. in philosophy and permission of instructor.*

Physical Education

One credit activity courses meet twice a week for a semester or four periods per week for a quarter.

PHEC 103 Foundations of Physical Education **3 cr.**
Theories and practices guiding instructional planning in physical education. Foundational knowledge for TOPE program. *Prerequisite: HPE teacher education majors only.*

PHEC 109 Aerobic Fitness **2 cr.**
Leadership and technical skills for safe and effective group exercise programs. Every semester.

PHEC 115 Methods of Group Exercise Instruction **3 cr.**
Leadership and technical skills for safe and effective group exercise programs. Every semester.

PHEC 124 Basketball **1 cr.**
Fundamental skills of basketball. Every semester.

PHEC 126 Soccer **1 cr.**
Fundamental skills of soccer. Spring.

PHEC 129 Tennis **1 cr.**
Fundamental skills of tennis. Spring, odd-numbered years.

PHEC 164 Teaching of Physical Education Through Outdoor Adventure Education **1 cr.**
Fundamental skills of rock climbing, canoeing, backpacking, cycling, and in-line skating. Every semester. *Prerequisite: PHEC 103 or PHEC 170.*

PHEC 165 Teaching of Physical Education Through Cooperative Team Challenges **1 cr.**
Fundamental skills of cooperative and initiative activities. Every semester. Prerequisite: *PHEC 103 or PHEC 170.*

PHEC 166 Teaching of Physical Education Through Game and Activity Skills **1 cr.**
Fundamental skills of game and activity, team play, and strategy. Every semester. *Prerequisite: PHEC 103 or PHEC 170.*

PHEC 167 Teaching of Physical Education Through Educational Gymnastics **1 cr.**
Fundamental skills of educational gymnastics. Every semester. *Prerequisite: PHEC 103 or PHEC 170.*

PHEC 168 Teaching of Physical Education Through Dance Forms **1 cr.**
Fundamental skills of dance. Every semester. *Prerequisite: PHEC 103 or PHEC 170.*

PHEC 169 Teaching of Physical Education Through Health Fitness **1 cr.**
Fundamental skills of health fitness. Every semester. *Prerequisite: PHEC 103 or PHEC 170.*

PHEC 170 Physical Education Teaching Lab **1 cr.**
Lesson plan components for physical education. Foundational knowledge for TOPE program. *Prerequisite: Transfer students entering with credit for PHEC 103 or permission of instructor only.*

PHEC 175 Foundations of Resistance Training **1 cr.**
An introduction to resistance training program design. Emphasis will be on proper exercise technique and functional progressions for a variety of body areas. Every semester.

PHEC 230 Golf **1 cr.**
Fundamental skills of golf. Spring, odd-numbered years.

PHEC 250 Beginning Swimming **1 cr.**
Basic swimming skills and water safety. Open to beginning swimmers only. Fall.

PHEC 251 Intermediate Swimming **1 cr.**
Swimming strokes and aquatic skills required for qualification as a good swimmer. Spring.

PHEC 301 Applied Biomechanics **3 cr.**
Mechanics of human motion-muscles and joints. Emphasis on the teaching of various physical principles through the study of human motion. Biomechanical relationship in the upper and lower extremities, and the vertebral column. May not be taken by students who have credit for PHEC 303. Spring. *Prerequisite: BIOL 211.*

PHEC 303 Biomechanics for Exercise and Sport Science **3 cr.**
Mechanics of human motion - muscles and joints. Application of mechanical principles to the study of human movement in exercise and daily life. Biomechanical relationships in the upper and lower extremities, and the vertebral column. May not be taken by students who have credit for PHEC 301. Fall. *Prerequisite: BIOL 202.*

PHEC 309 Health and Physical Education for the Elementary Classroom Teacher **3 cr.**
Developmentally appropriate content, skills, and activities in health and physical education. Primary emphasis on regular classroom teacher role. For early childhood and elementary education majors. Students required to earn CPR certification outside regular class hours. Every semester, summer. *Prerequisite: EDUC 100.*

PHEC 310 Organization & Administration of Health and Physical Education **3 cr.**
Non-instructional aspects of the health and physical education program. Classroom management and discipline, budgets and equipment inventory, legal considerations, program advocacy and the role of physical education in society. Spring. *Prerequisite: Health and Physical Education Majors only.*

PHEC 341 Psychology of Physical Activity **3 cr.**
Concepts related to psychology and physical activity. Theory-to-practice approach on how social psychological variables influence motor behavior and how physical activity affects the psychological make up of the individual. Spring. Prerequisite: Psychology 150.

PHEC 350 Red Cross Lifeguarding **1 cr.**
Red Cross lifeguarding techniques. Three periods per week. Every semester. *Prerequisite: ability to swim a quarter mile.*

PHEC 351 Water Safety Instruction **2 cr.**
Course is designed to certify instructor candidates to teach water safety and swimming courses. Three periods per week. Every semester. *Prerequisite: Life Saving certificate.*

PHEC 360 Theory of Track and Field **3 cr.**
Concepts, advanced strategies, and organization and administration of a track and field program. Fall, odd-numbered years.

PHEC 361 Theory of Football **3 cr.**
Concepts, advanced strategies, and organization and administration of a football program. Spring, odd-numbered years.

PHEC 362 Theory of Baseball **3 cr.**
Concepts, advanced strategies, and organization and administration of a baseball program. Fall, odd-numbered years.

PHEC 364 Theory of Basketball **3 cr.**
Concepts, advanced strategies, and organization and administration of a basketball program. Fall, even-numbered years.

PHEC 365 Theory of Volleyball **3 cr.**
Concepts, advanced strategies, and organization and administration of a volleyball program. Spring, even-numbered years.

PHEC 366 Theory of Soccer **3 cr.**
Concepts, advanced strategies, and organization and administration of a soccer program. Spring, even-numbered years.

PHEC 369 Theory of Softball **3 cr.**
Concepts, advanced strategy, and organization and administration of a softball program. Fall, even-numbered years.

PHEC 401 Physiology of Exercise **3 cr.**
Exercise and the circulatory, respiratory, and nervous systems; efficiency of muscular work; fatigue; age, sex, and body type. May not be taken by students who have credit for PHEC 406. Spring. *Prerequisite: BIOL 202.*

PHEC 402 Adapted Physical Activities **4 cr.**
Adapting physical activities to individual disabilities. Three hrs. lecture, 3 hrs. lab. *Prerequisite: PHEC 416.*

PHEC 405 Psycho-Social Foundations of Sport **3 cr.**
Study of human behavior during participation in sport; role of sport in society; psychological characteristics of sport performers; people and organizations who control sport. Variable.

PHEC 406 Applied Physiology **3 cr.**
Understanding how the cardio-respiratory, digestive, and muscle/neural systems function in the human body; how to teach physiological principles of training; how to promote a physically active lifestyle. May not be taken by students who have credit for PHEC 401. Fall. *Prerequisite: BIOL 211.*

PHEC 407 Motor Learning and Performance **3 cr.**
Motor skill acquisition concepts. Nature of the learner, guidance, results, motivation, practice, transfer, retention, and psychological implications. Every semester.

PHEC 408 Movement Experiences for Children **3 cr.**
Neuromuscular skills appropriate to grades K-6. Enhancing capacities for movement as a way to express oneself. One lecture and 2 labs per week. Every semester. *Prerequisites: Admission to Phase II teacher education; PHEC 416.*

PHEC 410 Advanced Strength Training **3 cr.**
The study of the principles and practices of advanced strength training. Emphasis on the practical application of this knowledge to both athletic performance and a health/wellness setting. Spring. *Prerequisites: PHEC 175 and PHEC 303.*

PHEC 411 Evaluation and Prescription in Fitness **3 cr.**
In-depth examination of evaluation of and components applicable to the development of exercise programs. Every semester. *Prerequisite: PHEC 401.*

PHEC 412 Principles of Coaching **3 cr.**
Introduces students to learning about coaching education and the responsibilities of the coach. Spring, odd-numbered years.

PHEC 413 Rehabilitation Techniques in Sport Medicine **3 cr.**
Various aspects of the rehabilitation process for the physically active or athletic population. Goals, techniques, evaluation methods and specific rehabilitation programs covered. Fall. *Prerequisite: HEED 319.*

PHEC 415 The Black Athlete in American Society **3 cr.**
A study of African-American involvement in sport from slavery to the present, investigating the people, events and conditions which affected sport in both the black society and the American society at large. Variable.

PHEC 416 Curriculum Design in Physical Education **3 cr.**
Physical education curriculum design, selection, and development. Instructional planning based on developmentally appropriate activities, learning styles, safety issues, diversity considerations and societal implications. Teacher education. Spring. *Prerequisite: Major in Health and Physical Education; junior standing.*

PHEC 418 Physical Education in the Secondary Schools **3 cr.**
Materials and methods of instruction in physical education at the secondary level. Teaching experience at local high school. Required in BLOCK semester prior to PHEC 497 in Teacher Education. Every semester. *Prerequisites: Admission to Phase II teacher education; PHEC 416.*

PHEC 420 Sport Law and Ethics **3 cr.**
Legal implications of tort and liability law for coaches; case studies in sport ethics, fair play, and morality in sport; athletic eligibility and gender equity. Variable.

PHEC 435 Lifespan Health and Fitness **3 cr.**
An examination of factors that influence health and fitness across the lifespan including methods, services and resources to access and optimize the health and fitness of individuals and cohorts. Every semester.

PHEC 450 Aquatics and Pool Management **3 cr.**
Advanced course in teaching, supervising all levels of swimming and diving instruction, and training competitive swimmers. Administration of swimming pools; staff, program, budget, facilities, safety, pool sanitation. Spring.

PHEC 480 Field Experience in Athletic Training **1 to 6 cr.**
Field experience in athletic training. Sites of study may vary. Offered as needed. Repeatable for maximum of 6 credits if placement sites are different.

PHEC 481 Field Experience in Coaching **1 to 6 cr.**
Field experience in coaching. Sites of study may vary. Offered as needed. Repeatable for maximum of 6 credits if placement sites are different.

PHEC 482 Field Experience in Health Fitness **1 to 6 cr.**
Field experience in health fitness. Sites of study may vary. Offered as needed. Repeatable for maximum of 6 credits if placement sites are different.

PHEC 490 Special Topics in Health & Physical Education **1 to 6 cr.**
The special topics course allows for unique or distinctive study such as clinics, workshops or course work dealing with a current topic related to health & physical education. It is arranged on a needs basis. Repeatable for maximum of 6 credits if topics are substantially different.

PHEC 492 Seminar in Health Fitness **3 cr.**
A separately graded component of the Health Fitness Internship, required in conjunction with PHEC 495. This course will address worksite issues encountered during the internship experience. Every semester.

PHEC 495 Internship in Health Fitness **9 cr.**
Special work experiences related to the health fitness academic program. Full-time students must register for a minimum of 9 credit hours of internship. Graded P/F. *Prerequisite: Completion of 90 credit hours or more with a C or better in the major and senior status. Exercise and Sport Science Capstone.*

PHEC 498 Readings in Health & Physical Education **1 to 4 cr.**
Intensive reading on selected topic. Every semester. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisite: major or minor in HPE or Exercise and Sport Science and permission of instructor.*

PHEC 499 Individual Problems in Health & Phys. Ed. **1 to 4 cr.**
Individual activity requiring submission of a final paper or completed project. Every semester. Repeatable for maximum of 4 credits if topics are substantially different. *Prerequisites: major or minor in HPE or Exercise and Sport Science and permission of instructor.*

Physics

Physical Science

PHSC 100 Cosmic Concepts **3 cr.**
A descriptive approach to the major physical concepts developed over the past four centuries and their relationship to the historical and philosophical context in which they arose. Emphasis will be on the origin, meaning, significance, and limitations of these concepts. Every semester. *PHSC 100* ***AND*** *PHSC 101 required for GEP Group C.*

PHSC 101 Measurement **1 cr.**
A laboratory experience in observation, measurement, graphical analysis, and discovery in Physical Science. Designed for non-science majors. One two-hour laboratory per week. Every semester. *Prerequisite or corequisite: PHSC 100. GEP Group C.*

PHSC 201 Physical Science I **3 cr.**
Physical phenomena and their role in modern society: the basic concepts of classical physics and their application. Students weak in mathematics should take MATH 104 before enrolling. Variable.

PHSC 202 Physical Science II **3 cr.**
Continuation of Physical Science I with emphasis on the basic concepts of modern physics and chemistry. Students weak in mathematics should take MATH 104 before enrolling. Variable. *Prerequisite: PHSC 201.*

PHSC 203 Physical Science **4 cr.**
Physical phenomena and their role in modern society: basic concepts of physics, chemistry, and astronomy, with energy and environment as the unifying theme. Three hrs. lecture and 3 hrs. lab. Every semester. Intended for education majors. *GEP Group C.*

PHSC 205 Descriptive Meteorology **3 cr.**
Aspects of the atmosphere, weather variables, radiation, clean and dirty air, clouds and precipitation, atmospheric electricity, and weather forecast and modification. Field work included. Also offered as GEOG 205. Variable.

PHSC 210 Descriptive Astronomy **3 cr.**
Aspects of the sky, the history and early development of astronomy, the solar system, stars, galaxies, cosmology, life beyond the earth, and current topics in astronomy. Lectures, planetarium demonstrations, and field work. Fall.

PHSC 211 Descriptive Astronomy Laboratory **1 cr.**
Introductory lab course of sky observing with the unaided eye and simple instruments: outdoor daytime observing and the planetarium simulation of the night sky. Designed for the non-science major. One 2-hr. lab per week. Variable. *Corequisite or prerequisite: PHSC 210.*

PHSC 220 The Solar System **3 cr.**
Solar and planetary discoveries since 1971, as revealed by NASA space probes. The solar atmosphere and the planets' magnetic fields; atmospheres and surfaces of the terrestrial planets; rings and atmospheres of the giant planets; major satellites; and the origin of the solar system. Variable. *Prerequisite: PHSC 210.*

PHSC 230 The Search for Life Beyond Earth **3 cr.**
General survey of conditions across the universe; nature and probable origin of terrestrial life; possibilities of life for the other planets in our solar system; and the likelihood and techniques of contacting or communicating with intelligences beyond our solar system. Variable.

PHSC 240 Descriptive Acoustics of Music and Hi-Fidelity **3 cr.**
Introductory acoustics course. The physical principles underlying the production, perception, and reproduction of music. Variable.

PHSC 290 Selected Topics in Physical Science **3 cr.**
A selected topic of current interest in physical science. Repeatable for maximum of 6 credits if topics are substantially different. Variable.

PHSC 315 Digital Electronics **4 cr.**
A lab-oriented course with emphasis on computer applications, including registers, counters, interfacing, and arithmetic circuits. Three hrs. lecture and 3 hrs. lab. Variable. *Prerequisite: COSC 100.*

PHSC 350 Practical Solar Energy **4 cr.**
Introduction to the principles of solar energy and how to install actual systems. Three hrs. lecture and 2 hrs. lab. Variable.

PHSC 444 Metaphysics and Modern Physics **3 cr.**
Interdisciplinary study of 20th-century physics and ancient Asian metaphysics. Concepts of reality proposed by Newton, Einstein, Heisenberg, and other physicists; and by Lao-Tzu, Buddha, Hui Neng, and other ancient philosophers. Lecture. Also offered as HUMA 444. Spring.

Physics

PHYS 215 General Physics I **4 cr.**
Non-calculus introduction to the theoretical and experimental foundations of physics, topics to include mechanics and heat, the fundamental concepts, principles, and laws of physics. Three hrs. lecture and 3 hrs. lab. Either an introduction to the field for prospective majors or a self-contained survey for others. Fall. *A familiarity with high school mathematics including algebra and geometry is assumed. GEP Group C.*

PHYS 216 General Physics II **4 cr.**
A continuation of PHYS 215. Non-calculus introduction, topics to include electricity, magnetism, and light. The fundamental concepts, principles, and laws of physics. Three hrs. lecture and 3 hrs. lab. Spring. *Prerequisite: PHYS 215.*

PHYS 261 Principles of Physics I: Mechanics **4 cr.**
Calculus-based introduction to the theoretical and experimental foundations of physics focusing on mechanics. Topics to include kinematics, dynamics, energy, momentum, rotational dynamics, and continuum mechanics. Intended primarily for physical science, engineering and math majors. Six hours of integrated lecture/lab/discussion per week. Fall. *Corequisite: MATH 120. GEP Group C.*

PHYS 262 Principles of Physics II: Electricity and Magnetism **4 cr.**
Calculus-based introduction to the theoretical and experimental foundations of physics focusing on Electricity and Magnetism. Topics to include electrostatics, electrodynamics, magnetostatics, electromagnetic induction and Maxwell's equations. Six hours of integrated lecture/lab/discussion per week. Spring. *Prerequisite: PHYS 261. Corequisite: MATH 236.*

PHYS 263 Principles of Physics III: Sound & Light **4 cr.**
Calculus-based introduction to the theoretical and experimental foundations of physics focusing on sound and light. Topics to include vibration, wave motion, acoustics, geometrical optics, physical optics, and special relativity. Six hours of integrated lecture/lab/discussion per week. Fall. *Prerequisite: PHYS 262. Corequisite: MATH 237.*

PHYS 264 Principles of Physics IV: Thermodynamics & Modern Physics **4 cr.**
Calculus-based introduction to the theoretical and experimental foundations of physics focusing on thermodynamics and modern physics. Topics to include heat, thermodynamics, kinetic theory, atomic physics, and quantum physics. Six hours of integrated lecture/lab/discussion per week. Spring. *Corequisite: MATH 238. Prerequisite: PHYS 263.*

PHYS 282 Thermodynamics **3 cr.**
Introduction to thermodynamics. Thermodynamic properties of matter. Three laws of thermodynamics, cycles, reactions, mixtures. Fall, odd numbered years. Also offered as ENME 232. *Prerequisites: PHYS 261 and 262.*

PHYS 300 Introductory Astrophysics **3 cr.**
Application of physics and mathematics to astrophysics. Celestial mechanics, stellar structure, and stellar evolution. Fall, even-numbered years. *Prerequisites: PHYS 216 or PHYS 262, and MATH 237, or permission of instructor.*

PHYS 310 Classical Mechanics **4 cr.**
Development of particle and rigid body mechanics from Newton's Laws using the notation and methods of vector calculus. Particle motion, central forces, conservation principles, rigid body dynamics, and introduction to Lagrange's equations. Spring. *Prerequisite: PHYS 263 and junior standing. Corequisite: MATH 432.*

PHYS 311 Thermodynamics **3 cr.**
Introduction to thermodynamics. Thermodynamic properties of matter. Three laws of thermodynamics, cycles, reactions, mixtures. Not open to students who have received credit for former PHYS 282 or ENME 232. Fall, even-numbered years. *Prerequisite: PHYS 264*

PHYS 312 Electricity and Magnetism **4 cr.**
Classical theory of electricity and magnetism using the techniques of vector calculus. Electrostatics, magnetostatics, polarized media, currents and their associated fields, and Maxwell's equations. Fall. *Prerequisite: PHYS 263 and junior standing. Corequisite: MATH 432.*

PHYS 313 Optics **3 cr.**
The nature and propagation of light, including reflection, refraction, diffraction, coherence, and interference, treated from the point of view of electromagnetic theory. Introduction to quantum optics. Spring, odd-numbered years. *Prerequisite: PHYS 263.*

PHYS 320 Experimental Physics **2 cr.**
Application of contemporary methods and instruments to the experimental observation and measurement of classical and modern physical phenomena. Experiments chosen from mechanics, heat, thermodynamics, acoustics, electricity, magnetism, optics, and modern physics. Two 3-hr. labs. Fall. *Prerequisite: PHYS 264.*

PHYS 331 Analog Electronics **4 cr.**
Basic principles of modern electronic devices, including DC and AC circuit analysis, diodes and power supplies, amplifier characteristics, op amps, transistors and transistor amplifiers, waveform generators. Six hours integrated lecture and lab. Not open to students with credit for PHYS 316. Fall. *Prerequisites: PHYS 216 or PHYS 262, MATH 236, or permission of instructor.*

PHYS 332 Digital Electronics **4 cr.**
Basic principles of digital electronic devices, including TTL and CMOS logic families, gates, flip-flops, counters, registers, memory devices, displays, D to A and A to D converters, digital instruments, elementary computer interfacing techniques. Six hours integrated lecture and lab. Spring. *Prerequisite: PHYS 331.*

PHYS 340 Audio Engineering **3 cr.**
Basic principles of audio engineering including acoustics, electroacoustic devices, electronic components for audio-engineering, audio measurements, audio electronic circuits and equipment, and audio recording and playback. Includes elements of both analog and digital audio. Two hrs. lecture, 2 hrs. lab. Fall, even-numbered years. *Prerequisites: PHYS 263 and MATH 237 or permission of the instructor.*

PHYS 410 Theoretical Mechanics **3 cr.**
Lagrangian and Hamiltonian formulation of mechanics with applications, the theory of small oscillations, the theory of wave motion in solids, reflection of waves, and mechanics of continuous fluids. Variable. *Prerequisites: PHYS 310 and MATH 432.*

PHYS 412 Theoretical Electromagnetism **3 cr.**
Theory of the magnetic properties of matter, Maxwell's equations with applications to wave propagation in isotropic and antisotropic media, scattering of electromagnetic waves, physics of the plasma state, fields and radiation from moving charges. Variable. *Prerequisites: PHYS 312 and MATH 432.*

PHYS 415 Computer Interfacing **3 cr.**
Basic digital computer interfacing, combining digital electronics, programming, and computer architecture. Topics include transducers, electronic amplification, D/A and A/D conversion, data sampling, data storage and retrieval, laboratory exercises in discrete and integrated software, survey of commercially available interface devices. Two hrs. lecture and three hrs. lab. Variable. *Prerequisites: COSC 240, PHYS 216 or PHYS 262, and PHSC 315 or PHYS 332 or permission of instructor. Also offered as COSC 415.*

PHYS 417 Quantum Physics **3 cr.**
The breakdown of classical mechanics and the development of quantum theory, the foundations of the Schroedinger Equation, the uncertainty principle, quantum systems in one dimension, angular momentum, spin, and atomic physics. Fall, odd-numbered years. *Prerequisite: PHYS 264. Corequisite: MATH 432.*

PHYS 420 Introduction to Computational Physics **3 cr.**
Introduction to the methods of computational physics. Explores some of the basic techniques and ideas used to solve physics problems with the aid of computers. Students develop computer programs in a high-level programming language to solve specific problems. Topics include examples from several fields of engineering such as mechanics, heat transfer, fluid dynamics, electricity and acoustics. Variable. *Prerequisites: PHYS 310, MATH 238, and COSC 240 or permission of instructor.*

PHYS 436 Mathematical Physics **3 cr.**
Topics in mathematical methods: finite differences, Fourier series, partial differential equations, complex variables, and conformal mapping with physical applications. Also offered as MATH 436. Spring. *Prerequisites: MATH 432 and PHYS 216 or PHYS 262, or permission of instructor.*

PHYS 440 Acoustics **3 cr.**
Introduction to the theory of wave motions. Production, properties, measurements, and applications of sonic and ultrasonic waves. Spring, even-numbered years. *Prerequisite: PHYS 263.*

PHYS 490 Special Topics **1-3 cr.**
Study at the senior level of one of the fields or recent developments of contemporary physics, such as ultrasonics, musical acoustics, atmospheric physics, astrophysics, or radiation physics. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: permission of instructor.*

PHYS 491 Seminar **2 cr.**
Individual reports and group discussions on current topics. Subject matter selected jointly by student and instructor. Preparation of proposal for a research project. Review of basic concepts in mechanics, electrodynamics, thermodynamics, and atomic physics. Repeatable 1 time for credit. Fall. For *physics majors with junior or senior standing. May be repeated once for credit.*

PHYS 492 Senior Research & Seminar **2 cr.**
Under the direction of a faculty member, students engage in independent research. Research culminates in a paper and formal public seminar. Repeatable 1 time for credit. Spring. *Prerequisite: PHYS 491 or permission of instructor. Capstone.*

PHYS 499 Special Projects **2-4 cr.**
Advanced lab projects for the superior student. Project chosen by the student in consultation with a member of the Department; may be a theoretical problem. Independent search of the pertinent literature, formulation of the experimental method, conducting the investigation, and the preparation of a report. Repeatable for maximum of 8 credits. Variable. *Prerequisite: permission of Chair of Department.*

Political Science

POSC 110 Introduction to American Politics 3 cr.
Interaction of the public and government in making American public policy. Processes and institutions of American national government; political parties and elections; public opinion and media; constitutional, legal, and cultural context. Every semester. *GEP Group D.*

POSC 112 Honors Introduction to American Politics 3 cr.
Accelerated study of the politics of a democratic society in a constitutional, legal, and cultural context. Major institutions (Congress, president, courts, bureaucracies) of U.S. national government; political behavior of the public. Computer-based data analysis; prior computer experience not necessary. Credit cannot be earned for both POSC 110 and POSC 112. Variable. *Prerequisite: acceptance into the Honors Program or permission of the instructor. GEP Group D*.

POSC 113 Introduction to World Politics 3 cr.
Exploration of the major issues in world politics including evolution of the international system, political actors in world politics, patterns of conflict and cooperation, power, nationalism, international political economy, and international organizations. Every semester. *GEP Group D.*

POSC 114 Honors Introduction to World Politics 3 cr.
Accelerated study of major issues in world politics including evolution of the international system, political actors in world politics, patterns of conflict and cooperation, power, nationalism, international political economy, and international organizations. Credit cannot be earned for both POSC 113 and POSC 114. Fall. *Prerequisite: Acceptance into the Honors Program or permission of the instructor. GEP Group D*.

POSC 131 Introduction to Comparative Politics 3 cr.
Comparative analysis of representative political systems including: the effect of legal, institutional and social structures on policy; interaction of domestic politics and the global system. Every semester. *GEP Group D or Group F.*

POSC 250 Research Methods 3 cr.
Development of the analytical skills necessary to evaluate political research and political phenomena including formulating and assessing research questions, measuring concepts, finding appropriate evidence, and evaluating existing literature. Take before enrolling in 300 or 400 level departmental courses. Every Semester. Not open to students who have credit for former POSC 311. *Prerequisites: POSC 110/112 or POSC 113/114 or permission of instructor.*

POSC 321 American State and Local Politics 3 cr.
Local, county, and state governments in the U.S., with emphasis on Maryland. Role of states in the federal system. Every semester. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 323 Public Administration 3 cr.
Exploration of the administrative functions of US government; focus on national government; comparisons with private sector; emphasis on issues of efficiency. Every semester. Not open to students who have credit for former POSC 351. *Prerequisite: POSC 110/112 or permission of instructor*.

POSC 324 Criminal Justice Systems 3 cr.
Structure, function, and social impact of criminal legal systems; "law" and "justice." Participants in the legal process: police, prosecuting and defense attorneys, judges, jurors, correctional officials, litigants, the press. State, national, and international comparisons; proposals for reform. Every semester. Not open to students who have credit for former POSC 354. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 330 Politics of Africa 3 cr.
Examination of the economic and political development of modern African states. Topics include the impact of colonization, theories of development, theories of integration into the contemporary global economic system and the process of state building. The focus will be on selected countries as case studies. Variable. *Prerequisite: POSC 113/114 or POSC 131; POSC 131 preferred.*

POSC 331 Politics of Latin America 3 cr.
Examination of the development of political and economic systems in Latin America. Topics include the effects of colonization, the application of theories of development, approaches to integration into the contemporary global economic system and patterns of state building. The focus will be on selected countries as case studies. Variable. *Prerequisite: POSC 113/114 or POSC 131; POSC 131 preferred.*

POSC 332 Politics of Middle East 3 cr.
Examination of political and economic development of modern Middle Eastern states. Topics include the impact of colonization, approaches to development and modernization, integration into the world economy, regional politics of inclusion and global exclusion. The focus will be on selected countries as case studies. Variable. *Prerequisite: POSC 113/114 or POSC 131; POSC 131 preferred.*

POSC 333 Politics of Europe 3 cr.
Examination of the structures of governments, ideologies, policies, and contemporary issues and problems facing the states of Europe and the European Union. Spring. *Prerequisite: POSC 113/114 or POSC 131; POSC 131 preferred. Students who previously received credit for POSC 333 cannot receive credit for this course.*

POSC 336 The Politics of Food 3 cr.
Comparative analysis of government policies concerning the production and regulation of food, the use of food as a weapon, a commodity, and statement of political values. The globalization of food and its impacts on state policies and the role of governmental and non-governmental actors on global food security. Spring. *Prerequisite: POSC 113 /114 or POSC 131*.

POSC 341 International Organization 3 cr.
Structure and activities of international organizations as mechanisms of foreign policy and international and transnational cooperation. Security concerns; international political economy; economic development and integration; human rights. Spring. *Prerequisite: POSC 113/114 or POSC 131*.

POSC 342 Foreign Policy of the United States 3 cr.
Formulation and conduct of U.S. foreign policy; key agencies, inter-branch relations; decision-making models. Societal and international influences on U.S. foreign policy behavior. Fall. *Prerequisite: POSC 113/114 or POSC 131*.

POSC 352 Interest Groups 3 cr.
Organization and activities of modern interest groups; impact of interest groups on public policy. Interest group formation, recruitment of members, internal organization, role in election campaigns, lobbying. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 355 Public Budgeting 3 cr.
Examination of the role that budgeting plays in state, local and national level politics. Investigation of current prevailing and recent historical techniques of budgeting. Exploration of current issues involving the interplay of politics and budgeting. Variable. *Prerequisite: POSC 110/112 or permission of the instructor.*

POSC 358 American Public Policy 3 cr.
Application of analytical tools to American public policy areas. Comparison of strengths and weaknesses of markets and governments; techniques for framing policy questions; exploration of currently policy areas through simulations and analysis. Not open to students who have credit for former POSC 458. Every year. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 361 Public Opinion and Political Behavior 3 cr.
How the ordinary citizen relates to politics, particularly in the U.S. Positions on basic issues; polls and surveys; formation of attitudes; ideology; participation and voting; propaganda and the media; public impact on government policy. Computer-based data analysis; prior computer experience not necessary. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 362 Political Parties and Elections 3 cr.
Organization and activities of modern political parties. Evolution of party systems in the United States; role in election campaigns; impact on public policy. Comparison to other political systems. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 363 Media and Politics **3 cr.**
Effects of mass media, particularly television, on American politics and society; use of the media by politicians; nature and impact of news reporting; media and the socialization process; freedom of the press. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 365 Women and Politics **3 cr.**
Examination of the changing political role of women in the United States. Political attitudes and values; voting; candidacy; and behavior of elected officials. Comparison across U.S. subcultures. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 370 Introduction to Political Thought **3 cr.**
Introduction to the major thinkers and perspectives in Western political thought. Exploration of the seminal ideas of human nature, the nature of the state, and the good life that form the theoretical underpinnings of current political perspectives such as conservatism, liberalism, socialism, and fascism. Every year. *Prerequisites: POSC 110/112, POSC 113/114 or POSC 131 or permission of instructor.*

POSC 421 American Legislative Politics **3 cr.**
Legislative politics in the U.S.; historical role of legislatures in American politics. Relations between legislatures and constituencies; congressional elections; internal formal and informal structures of Congress; congressional decision-making. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 422 American Constitutional Law I **3 cr.**
Study of the U.S. Supreme Court as an institution within the American political system; the U.S. Constitution as defined in the principal decisions and opinions of the U.S. Supreme Court: the U.S. Supreme Court's interpretation of the powers of three branches of federal government and the relationship between federal and state government. Every semester. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 423 American Constitutional Law II **3 cr.**
The U.S. Constitution as defined in the principal decisions and opinions of the U.S. Supreme Court; the scope of individual rights and equal protection in relation to the powers of the national and state government. Every semester. *Prerequisite: POSC 422 or permission of instructor.*

POSC 427 The American Presidency **3 cr.**
Analysis of the modern American presidency and the president's interaction with the bureaucracy and Congress in making foreign and domestic policy. Evolution of the president's role; executive office and White House staff; presidential power; personality; executive leadership and decision making. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 431 Russian Politics **3 cr.**
The structure, functions and dynamics of the Russian political system since the collapse of the Soviet Union. Topics include economic policy, democratization, ethnic politics, and the role of Russia in international security, economic, and political fora. Fall. *Prerequisite: POSC 113/114 or POSC 131 or permission of instructor; POSC 131 preferred.*

POSC 435 Model Organization of American States **3 cr.**
Detailed examination of the structure, functions, procedures, and issues associated with contemporary international organizations through preparation for and participation in the Model Organization of American States. Every year. Not open to students who have credit for former POSC 445. *Prerequisite: POSC 341 and permission of instructor*.

POSC 441 Theory and Practice of International Relations **3 cr.**
Current theoretical approaches to the study of international relations; foreign policy analysis; designing approaches for international problem solving; international negotiation. Fall. *Prerequisites: POSC 113/114 or POSC 131 or permission of the instructor.*

POSC 442 National Security Policy **3 cr.**
Historical evolution of U.S. National Security Policy since 1945. Social construction of the national interest within the policy-making process; defense policy; resource issues; and counterterrorism. Spring. *Prerequisite: POSC 113/114 or POSC 131 or permission of instructor.*

POSC 443 Transnational Terrorism and Counterterrorism **3 cr.**
Sociological roots of religious terrorism; intellectual history and the evolution of the global Salafist movement; history of U.S. government efforts to counter global Salafist terrorism; development of counterterrorism policy recommendations. Variable. *Prerequisite: POSC 113/114 or POSC 131 or permission of instructor.*

POSC 450 Environmental Public Policy **3 cr.**
Development of the analytical tools required to understand and assess current environmental policy with the application of these tools to current environmental issues at the regional, national and international level. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 455 Public Program Evaluation **3 cr.**
Examination of current techniques in program evaluation. Emphasis will be placed on the policy cycle and the role that program evaluation does, can and should play in politics. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 462 Personality and Politics **3 cr.**
Politics from a psychological perspective. The phenomenon of political leadership; biographical study of political leaders; psychological and cultural factors in individual and mass political behavior. Variable. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 470 Seminar in Political Thought **3 cr.**
Development of political reasoning through careful consideration of the original works of political theorists, including such topics as the ideal political community and "natural right." Impact of these ideas on the development of the modern political ideologies of conservatism, liberalism, socialism and fascism. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: POSC 370 or permission of instructor.*

POSC 471 American Political Thought **3 cr.**
Analysis of the fundamental political ideas underlying the American political experience and an exploration of how these ideas have been applied and developed over time and how they relate to current debates in American politics. Variable. Not open to students who have credit for former POSC 424. *Prerequisite: POSC 110/112 or permission of instructor.*

POSC 488 Comparative Legal Systems **3 cr.**
Examination of the structures of judicial systems within the developed and developing world; the role of the judiciary within the structure of government and the rule of law; issues relating to the power and legitimacy of the judiciary within common law, civil law, and Islamic law systems. Every other year. Not open to students who have credit for former POSC 434. *Prerequisite: POSC 422 or permission of instructor.*

POSC 489 Law and Society Capstone **1 cr.**
Preparation of a portfolio of student work demonstrating research and analytical skills acquired in the Law and Society program; development of written work combining basic ideas from previously conducted research papers; development of oral presentation skills. *Prerequisites: at least 75 credits earned; at least five 300 and/or 400 level courses in the Law and Society program.*

POSC 490 Capstone Seminar in Political Science **1 cr.**
Preparation of a portfolio of student work demonstrating research and analytical capabilities; development of written work synthesizing major points from previously conducted research; development of oral and visual presentation skills. Every semester. *Prerequisite: Completion of at least 75 credits; five 300 or 400 POSC courses.*

POSC 491 Seminar in Political Science **3 cr.**
Lectures, discussions, student reports, research techniques, criticism, interpretation. Individual research (senior thesis) on a common topic, with interim reports and final formal presentation of paper. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: written permission of instructor.*

POSC 492 Internship Seminar **3 or 6 cr.**
Academic component of internship; requires co-registration in POSC 495. Full-time interns register for 6 credits 492 (and 9 cr. 495), part-time interns 3 credits 492 (and 6 cr. 495). Graded A through F; elective credit in POSC major. Every semester.

POSC 495 Internship in Political Science **6 or 9 cr.**
Experiential component of internship: guided work experience in conjunction with POSC 492; must directly relate to student's academic program. Full-time interns register for 9 credits 495 and 6 credits 492 and may not enroll in any other courses. Part-time interns must register for 6 credits 495 and 3 credits 492. Graded P/F; general elective credit - does not count toward POSC major. Every semester. *Prerequisites: junior or senior standing, not on probation; departmental approval of internship before registering.*

POSC 498 Readings in Political Science **1 to 6 cr.**
Directed readings in a specialized area or topic of political science. Topic ordinarily relates to an upper level political science course previously taken in that area. Regular conferences with instructor. Typically limited to seniors majoring political science with at least a 3.0 GPA in all political science courses. Repeatable for maximum of 6 credits if topics are substantially different. Every semester. *Prerequisite: written permission of instructor and department chair.*

Psychology

PSYC 150 General Psychology **3 cr.**
Introduction to the methodology, theories, and applications of the science of animal and human behavior. Every semester. *GEP Group D.*

PSYC 151 Honors: General Psychology **3 cr.**
Introduction to the scientific study of human and animal behavior. Basic research findings, methodology, and theoretical, social, and ethical issues. Oral presentations and written reports on outside readings in psychology required. Credit may not be earned for both PSYC 150 and PSYC 151. Fall. *Prerequisite: acceptance into the University Honors Program or permission of instructor. GEP Group D*.

PSYC 155 Critical Thinking and Scientific Inquiry **3 cr.**
Introduction to the theory and practice of critical thinking with a focus on how these relate to psychological and other scientific thinking. Related topics covered include creative thinking, problem solving, judgment, decision making, skeptical inquiry, and scientific thinking as they apply to behavior and mental processes. Every semester. *Prerequisites: PSYC 150/151 or permission of instructor.*

PSYC 197 Introduction to the Profession of Psychology **1 cr.**
Explanation of the profession of psychology. Detailed examination of what it means to be a psychology major at FSU. Identification of opportunities available within the department and university. Preliminary examination of both career and graduate school opportunities available to psychology majors. Graded P/F. Every semester. Not open to students who have credit for former PSYC 297. *Prerequisites: PSYC 150/151 with a "C" or better and declared major in psychology, or permission of instructor. Recommended for Psychology Majors within the first 45 credits.*

PSYC 201 Research Methods & Analysis I **3 cr.**
Introduction to the scientific method as applied to behavioral data. Naturalistic observation, surveys, and correlational studies; statistical topics. Should be taken immediately after completing PSYC 150/151. Every semester. Not open to students who have credit for former PSYC 300. *Prerequisite: PSYC 150/151.*

PSYC 208 Introduction to Lifespan Development **3 cr.**
Survey of human development from conception to death, emphasizing biological, cognitive, and socio-emotional development. An overview for understanding how humans change across the lifespan. Less depth than PSYC 210 or PSYC 212. Variable. *Prerequisite: PSYC 150/151 with a "C "or better.*

PSYC 210 Child Development **3 cr.**
Detailed review of the biological, cognitive, and socio-emotional aspects of development, from conception through childhood. More depth than PSYC 208. Every semester. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 212 Adolescent and Adult Development **3 cr.**
Detailed review of the biological, cognitive, and socio-emotional aspects of development, from adolescence until maturity. More depth than PSYC 208. Every semester. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 213 Psychology of Adjustment **3 cr.**
Explores the concept of psychological adjustment by relating it to students' everyday lives. Relevant psychological theory and research presented on a variety of topics including self-concept, values, person perception, interpersonal attraction, sexuality, problems in adjustment and psychotherapy. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 214 Intro to Geropsychology **3 cr.**
Study of older adult development (65+). Covers physical and psychological changes, developmental transition from middle adulthood, health and mental health care, cognitive change, caregiving, personality, work and adjustment to retirement, and changing relationships in older adulthood. Fall. *Prerequisite: PSYC150/151 with a "C "or better.*

PSYC 220 Psychology of Women **3 cr.**
Explores women's psychological development and experience. Covers sex roles and how society's attitudes about girls and women affect female self-concept, personality, relationships and work experience. Topics also include women of color, sexual harassment, violence against women and spirituality. Spring. *Prerequisite: PSYC 150/151 with a C or better. GEP Group F.*

PSYC 250 Death and Dying **3 cr.**
Examination of the individual's attitudes and reactions toward death and dying and one's own mortality. Social and psychological processes affecting attitudes and reactions are explored. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 270 Psychological Perspectives of Human Sexuality **3 cr.**
Describes psychological aspects of human sexual behavior and attitudes. Covers historical and current research techniques used to study sexuality; theories of sexual attraction, love and behavior; sexuality across the lifespan; physical and psychological aspects of sexual response; and variations in sexual attitudes, orientations and practices. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 290 Psychological Issues and Practices **1-4 cr.**
A special content area or group of issues selected by the Department and announced in the preceding semester. Admission competitive. See the department for the criteria. Three hrs. seminar format. Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 301 Research Methods & Analysis II **3 cr.**
The nature of scientific method, explanation, and theory. Experimental and quasi-experimental design and statistical analysis. *Prerequisite: PSYC 201 with a "C" or better.*

PSYC 303 Psychology of Couples **3 cr.**
The psychology of intimate relationships. Variable. *Prerequisite: PSYC 150/151 with a "C" or better or permission of instructor.*

PSYC 306 Sensation and Perception **3 cr.**
Psychological and physiological approaches to the study of how information from the senses is processed, organized, and interpreted. Applied to understanding art and everyday experience. Spring and Intersession. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 314 Theories of Personality **3 cr.**
General survey of the principal theories and research concerning the nature and development of personality. Fall. Not open to students with credit for former PSYC 414. *Prerequisites: PSYC 150/151 with a "C" or better. Recommend PSYC 208/210/212.*

PSYC 317 Abnormal Psychology **3 cr.**
In-depth examination of psychological disorders. Relevant research and evidence-based treatment are discussed. Spring and Intersession. Not open to students with credit for former PSYC 417. *Prerequisite: PSYC 150/151 with a "C" or better. Recommended PSYC 208/210/212.*

PSYC 318 Social Psychology **3 cr.**
Theories, methods and applications of social psychology. A survey of the social and interpersonal factors influencing an individual's behavior. Topics include attitudes, person perception, interpersonal relations, group dynamics, social roles and conformity. Fall. Not open to students with credit for former PSYC 418. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 325 African American Psychology 3 cr.
Surveys African American psychology. Relevant psychological theory and research presented on a variety of topics including: family and individual relationships, the role of the Black Church, the impact of discrimination and oppression, and racial identity. Variable. *Prerequisites: Prerequisite: PSYC 150/151 General Psychology with a C or better. GEP Group F.*

PSYC 340 Forensic Psychology 3 cr.
Examination of the interaction between psychology and the law including eyewitness testimony, expert testimony, why criminals commit crimes, criminal profiling, psychology's role with the police, false memories, interrogations, the insanity defense, domestic violence, sexual abuse, discrimination and hate crimes, the death penalty, treatment of the criminal. Variable. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 345 Animal Learning and Cognition 3 cr.
Exploration of the cognitive abilities of nonhuman animals. Topics include classical and operant conditioning, memory, communication, social learning, and primate cognition. Fall. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 360 Industrial/Organizational Psychology 3 cr.
Explores how psychological theory, methods and research are used to help understand, predict and influence people's behavior in the work place. Considers personnel psychology, organizational psychology and consumer psychology. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 385 Group Processes 3 cr.
Study of group processes including power dynamics, curative factors, patterns of member interaction, leadership and stages of group development. Variable. *Prerequisites: PSYC 150/151 with a "C" or better or permission of instructor.*

PSYC 386 Drugs and Human Behavior 3 cr.
Research and theory concerning psychoactive drugs. Various drug classifications, their biological, psychological and social effects on the human organism and the environment, especially alcohol and other frequently abused drugs. Every semester. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 387 Addictions Treatment Delivery 3 cr.
Addresses the practice dimensions necessary for addiction counselors. Within each dimension, student introduced to the knowledge, skills and attitudes conducive to appropriate addiction service delivery. Variable. *Prerequisites: PSYC 150/151 with a "C" or better or permission of instructor.*

PSYC 388 Treatment Issues and Theory in Addictions 3 cr.
Practical application of research and theory of addiction counseling. Overview of treatment related issues, including assessment and diagnosis. Variable. *Prerequisites: PSYC 150/151 with a "C" or better or permission of instructor.*

PSYC 389 Ethics for the Addiction Counselor 1 cr.
Addresses legal and ethical considerations for addiction counselors. Differences and similarities among addiction and other helping professionals discussed. Variable. *Prerequisites: PSYC 150/151 or permission of instructor.*

PSYC 394 Learning Mentor in Psychology Field Experience 3 cr.
Supervised opportunity to act as a learning mentor. Strategies for assisted learning. Repeatable for maximum of 12 credits. Only 3 credits may be counted towards psychology major or minor. Every semester. *Prerequisites: PSYC 150/151 with a "C" or better; submission of application; departmental approval.*

PSYC 397 Career Planning in Psychology 2 cr.
Advanced exploration of the individual in choosing a career path in or related to psychology. Examine personal values, interests and skills; use a vocational inventory. Study resume or graduate application writing, job or graduate school search, and interview preparation. Graded P/F. Every semester. *Prerequisites: PSYC 197 and at least 45 credits or permission of instructor.*

PSYC 404 Psychology of the Exceptional Child 3 cr.
Developmental characteristics of exceptional children. Topics include attitudes towards exceptional children, pertinent laws, classroom management, and psychological treatment. Fall. *Prerequisites: PSYC 210 or 212, or permission of instructor.*

PSYC 408 Tests and Measurements 3 cr.
Psychological and educational tests, their validity, reliability, scale transformations, norms, and standardization. Administration, uses, and interpretation of various instruments of assessment. Fall. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 409 Human Learning and Cognition 3 cr.
An examination of human cognitive processes including human learning, memory and recall, attention processes, information processing, problem solving, thinking and reasoning, language acquisition and communication. Every semester. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 410 Introduction to Counseling 3 cr.
Practical and theoretical foundation for further study. The nature of helping relationships, conditions for counseling, stages in the counseling process, and the counselor as a professional helper. Role playing, audio and video tape experiences, and related skill-development exercises. Every semester and summer. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 420 Physiological Psychology 3 cr.
Characteristics of the nervous and endocrine system and their relationship to human and animal behavior. Fall. *Prerequisites: PSYC 150/151 with a "C" or better. Recommend BIOL 109 or 149.*

PSYC 430 Health Psychology 3 cr.
Scientific study of biopsychological processes related to health states. Includes prevention and treatment of illness, mind/body connection, influence of social and physical environments on our health, and health belief models. Behavioral components of health risk factors and improvement of the health care system are addressed. Course topics biologically based with introduction to applied perspectives. Variable. *Prerequisite: PSYC 150/151 with a "C" or better.*

PSYC 440 Survey of Family Psych. & Intervention Issues 3 cr.
General survey of the principal theories and research about family interaction patterns and interventions with families. Includes systems approaches, family life cycle development, social forces affecting families, and mental health issues including substance abuse/dependency. Not intended to prepare students to provide family therapy. Summer or Intersession. *Prerequisites: PSYC 208 or 210 or 212 or permission of instructor.*

PSYC 445 Research Applications in Animal Behavior and Cognition 3 cr.
Overview of research methods used to examine the behavior and cognitive abilities of nonhuman animals. Research projects designed to provide first-hand experience conducting behavioral research with animals. Spring. *Prerequisites: Submission of application, PSYC 345, and permission of instructor.*

PSYC 450 Multicultural Counseling Issues 3 cr.
Introduction to the issues of gender, class, race, culture, sexual orientation, and physical ability, as these variables may influence their ability to be present and counsel individuals who are different from themselves. Students will examine between and within group differences in light of various social, cultural, historical, and political contexts. The goals of this course are to increase student awareness of self and others as cultural beings and gain knowledge about various cultural groups in the United States. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 470 Research Methods Applications 3 cr.
Application of univariate and multivariate research methods and statistical procedures to analyze data from research projects in psychology and related fields. Instruction in computer data analysis and professional presentation to prepare students for work and graduate study. Fall. *Prerequisites: PSYC 301 with a "C" or better and at least 75 credits. Capstone.*

PSYC 481 History and Systems of Psychology 3 cr.
Historical foundations of the discipline of psychology. Survey of recent and current systems of theoretical ideas in psychology. Attention to the roots of the discipline in philosophy and science; consideration of the work of great psychologists and their associated systems. Spring. *Prerequisites: PSYC 150/151 with a "C" or better and at least 75 credits. Capstone.*

PSYC 485 Behavioral Approaches to Human Problems 3 cr.
Therapeutic application of learning principles to problems in the behavior of children and adults: normal childhood development; education and habit disorders; depression, severely disordered behavior, anxiety; and sexual problems in adults. Behavioral assessment, behavior change programs, and evaluation of such programs. Individual research and projects required. Spring. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 488 Environmental Psychology 3 cr.
Influences of natural and human-built environments on human behavior and how humans influence environments. Personal space and crowding, environmental stressors, psychological aspects of sustainability. Natural, residential, urban, educational and workplace environments. Variable. *Prerequisites: PSYC 150/151 with a "C" or better.*

PSYC 489 Abnormal Child Psychology 3 cr.
In-depth examination of child/adolescent psychological disorders. Relevant research and evidence-based treatment are discussed. Fall. *Prerequisites: PSYC 208 or 210 or 212; at least 45 credits or permission of instructor.*

PSYC 490 Special Topics in Psychology 1-4 cr.
Either a practicum to develop psychological skill, or a content-oriented course to provide a critical appraisal of a selected topic, as announced. Does not duplicate any other course offered by the Department of Psychology. Four credits when 5 contact hrs. are required (such as 2 hrs. lab and 3 hrs. lecture). Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 491 Seminar in Psychology 3 cr.
Oral reports on a selected theme topic presented and discussed by students in a group setting. Written reports may also be required. Attendance at all seminar meetings expected. Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: PSYC 150/151 with a C or better.*

PSYC 492 Internship Seminar 3 cr.
Academic component of internship; requires co-registration in PSYC 495. Full-time interns register for 3 credits of 492 (and 12 credits 495); part-time interns, 3 credits 492 (and 6-11 credits 495). Graded A-F. Every semester. *Prerequisites: see PSYC 495. Capstone Internship option.*

PSYC 495 Internship in Psychology 6 - 12 cr.
Experiential component of internship. Full-time interns register for 12 credits in 495 and 3 credits in 492 and may not enroll in other courses. Part-time interns register for 6-11 credits in 495 and 3 credits of 492. Graded P/F. Every semester. *Prerequisites: At least 75 credits; submission of Internship Agreement form to internship director prior to registering; departmental approval.*

PSYC 497 Senior Seminar 3 cr.
An integrated senior-year experience. Requires students to use accumulated skills, knowledge, and ethical sensitivity to critically analyze a new and/or controversial issue in psychology. Integration of previous course material and reflections on one's own experiences expected. An integrative research paper/project required. Repeatable for maximum of 9 credits if topics are substantially different. Every semester. *Prerequisites: PSYC 150/151 with a "C" or better and at least 75 credits. Capstone.*

PSYC 498 Readings in Psychology 1-6 cr.
Directed reading on a specific topic designed for the individual student. Summaries of readings and conclusions as a formal written report to be filed with the department. Not to duplicate any other course offered by the department. Departmental approval (granted only under extraordinary circumstances) required to enroll for more than 3 credit hrs. per semester. Repeatable for maximum of 9 credits if topics are substantially different. Every semester. *Prerequisites: PSYC 150/151 and a written proposal approved by the sponsoring faculty member and Department Chair.*

PSYC 499 Psychology Projects 1-6 cr.
Directed research, practicum, or other individualized learning experience on a specific topic. Formal written report to be filed with the department. Projects primarily of readings are not acceptable (see PSYC 498), nor are projects conducted in a group setting (see PSYC 490 or 491); not to duplicate any other course offered by the department. Departmental approval (granted only under extraordinary circumstances) required to enroll for more than 3 credit hrs. per semester. Repeatable for maximum of 9 credits if topics are substantially different. Every semester. *Prerequisites: PSYC 150/151 with a "C" or better and a written proposal approved by the sponsoring faculty member and Department Chair.*

Recreation and Parks Management

CCBC students contact the coordinator for schedule of offerings.

RECR 100 Leisure and the Diverse American Culture 3 cr.
Examines diversity within American culture through the study of leisure and related influences on physical and mental wellness throughout the lifespan. Variable. *GEP Group F.*

RECR 201 Introduction to Recreation and Parks 3 cr.
Appreciation of recreational activities in our culture. History and philosophy of the recreation and park movement and the value of leisure in society today. Not open to students who have received credit for former PHEC 204. Every semester.

RECR 221 Introduction to Therapeutic Recreation 3 cr.
An overview of services, agencies, and programs designed to meet the developmental and recuperative recreational and leisure needs of disabled populations. Every semester.

RECR 321 Theories & Concepts in Therapeutic Recreation 3 cr.
Introduction to theories and concepts related to leisure, play development, therapeutic recreation service delivery models, organization and management of therapeutic recreation services. Every third semester beginning Fall 2004.

RECR 330 Outdoor Education 3 cr.
Development of outdoor education in the school program. Integration of academic disciplines; conservation of the environment. Every semester.

RECR 342 Park and Facility Design 3 cr.
Study of park and recreation areas including acquisition, design and operating policies. Every semester.

RECR 380 Recreation Leadership 3 cr.
Leadership techniques involved in recreation and park settings including leadership in small and large groups. Every semester.

RECR 381 Facilitation Skills & Techniques in Rec. & Parks 3 cr.
Development of facilitation skills including interpersonal skills and techniques to become an effective leader and manager in recreation and parks. Variable.

RECR 382 Program Planning 3 cr.
Planning principles used in the development of recreation programs and leisure experiences. Every semester.

RECR 384 Special Event Management 3 cr.
Basic elements of special event management including: human resource management and organization structure, the arts and entertainment industry, event planning, event marketing, box office and ticket management, contract negotiation, financial management for special events, liability issues and program evaluation. Field trips required. Spring.

RECR 388 Research Methods in Recreation and Parks 3 cr.
Methods of inquiry in the empirical study of recreation and parks. Nature of scientific inquiry, research designs, survey research, program evaluation, unobtrusive research and elementary quantitative analysis. Every semester.

RECR 390 Outdoor Adventures 3 cr.
Wilderness and survival activities. Hiking, backpacking, survival swimming, orienteering, fitness activities, outdoor first aid and emergency skill, physical and emotional challenges, preserving the outdoors. Self-inventory of physical history required. Variable.

RECR 393 History and Philosophy of Outdoor Recreation 3 cr.
Philosophical basis of the historical, ethical, moral, social, and aesthetic issues surrounding outdoor recreation. Spring.

RECR 421 Program Design & Evaluation in Therapeutic Rec. 3 cr.
Introduction to conducting and analyzing leisure counseling assessments, developing program proposals for activities and interventions, facilitating activities and developing evaluation systems for programs. Every third semester beginning Fall 2003.

RECR 422 Principles & Practices in Therapeutic Recreation 3 cr.
Introduction to individual intervention treatment plans which consist of assessment, intervention techniques, protocols for treatment plans, documenting and tracking progress of the treatment plan, leadership techniques, and evaluation of the effectiveness of the treatment plan. Every third semester beginning Spring 2004.

RECR 440 Organization & Administration of Rec. & Parks 3 cr.
Structure and conduct of public, private, and school recreation and parks programs, special state and federal support programs. Every semester.

RECR 443 Current Issues & Legal Liability in Recreation & Parks 3 cr.
Current issues and legal liability in the recreation and parks field. Normally taken prior to Internship in Recreation. Every semester. *Prerequisites: 90 credits or permission of instructor.*

RECR 480 Field Experience in Recreation and Parks 1-6 cr.
Practical experience in recreation and parks management. Site of study may vary. Repeatable for maximum of 6 credits if placement sites are different. Every semester. *Prerequisite: Permission of instructor.*

RECR 490 Special Topics in Recreation & Parks 1-6 cr.
Unique or distinctive study such as clinics, workshops or course work dealing with a current topic related to recreation and parks management. Arranged as needed. Repeatable for maximum of 6 credits if topics are substantially different.

RECR 491 Practicum and Professional Seminar 3 cr.
Provides students with professional experiences in several different settings and prepares students for their internship experience. Provides employment search skills, interview techniques, and presentation skills necessary for a successful employment search. Every semester. *Prerequisite: RECR 382 or permission of instructor.*

RECR 492 Internship Project 3 cr.
Academic component of internship. Register concurrently with RECR 495. Every semester. *Prerequisites: RECR 491, junior or senior status, completion of core courses in major or permission of the instructor. Capstone.*

RECR 495 Internship in Recreation 9-12 cr.
Guided work experience directly related to student's academic program. Normally, students may not take additional course work and should register concurrently with RECR 492. Graded P/F. Not open to students who have received credit for former course, PHEC 495. Every semester. *Prerequisites: junior or senior status, completion of core courses in major or permission of the instructor.*

RECR 497 Out-of-Class Requirements 0 cr.
Students are required to attend one state, regional or national conference during their junior or senior year, to have a current certification in CPR and first aid and to complete a professional portfolio and review of the portfolio. Consult the Guide for Completion of Out-of-Class Requirements in Recreation. Graded NR/P. Every semester.

RECR 499 Individual Study in Recreation & Parks 1-6 cr.
Individual research performed under the supervision of a faculty member. Every semester. Repeatable for maximum of 6 credits if topics are substantially different. Variable. *Prerequisite: permission of the department chair.*

Social Science

SOSC 350 Honors Seminar: Values and Social Change 3 cr.
The impact of social change on behavior in various cultures, providing a perspective on social change in the United States. *Prerequisites: acceptance into Honors Program; permission of instructor.*

SOSC 490 Topics in Social Science 3 cr.
Interdisciplinary study of a special topic in the social sciences. Fall. *Prerequisites: completion of introductory courses and progress on concentration plus written permission of social science coordinator. Capstone.*

Social Work

SOWK 305 Racial and Cultural Minorities 3 cr.
Analysis of minority-majority group situations, their causes and consequences. Minorities in the United States. Also offered as SOCI 305. Every semester. Not open to students who have credit for former SOCI/SOWK 220, SOCI 320. *Prerequisite: SOCI 100 or 111. GEP Group F.*

SOWK 306 The Sociology of African Americans 3 cr.
A critical study of the organization of African-American society, its development, the endogenous structures and social processes that compose and define it, and its relationship to and interaction with the people and social forces external to it. Variable. Also offered as SOCI 306. *Prerequisite: SOCI 100 or 111.*

SOWK 310 Statistics for Social Science 3 cr.
Study of social scientific applications of univariate, bivariate, and multivariate statistical techniques with emphasis on their logic, interpretation, and application. Three hours lecture, one hour lab. Every semester. Also offered as SOCI 310. *Prerequisite: Completion of GEP math requirement*.

SOWK 311 Basic Research Methods 3 cr.
Techniques of research design: testing of hypotheses, sampling, data collection, measurement, and elementary statistical analysis. Research project required. Every semester. *Prerequisite or corequisite: SOCI 310 or SOWK 310. Prerequisite: three courses in social work or permission of the department.*

SOWK 364 Marriage and Family Relationships 3 cr.
Courtship, marriage, and family relationships. Current family patterns and the feasibility of the various alternatives to marriage. Every semester. *Prerequisite: SOCI 100 or 111.* Also offered as SOCI 364.

SOWK 370 Introduction to Social Welfare and Social Work 3 cr.
Introduction to social welfare and social work, including philosophy, history, and methods. The more significant aspects of social welfare ideology and the impact of established programs on meeting human need. Every semester. *Prerequisite: SOCI 100 or 111, sophomore standing, or permission of the department.*

SOWK 371 Social Policy 3 cr.
Analysis of contemporary social welfare programs, services, policies, and issues. Social welfare systems and their relation to other institutions in society. Every semester. *Prerequisites: SOWK 370, POSC 110 or POSC 112, SOCI 200 (may be taken as a corequisite), or permission of the department.*

SOWK 374 Child Welfare Social Services 3 cr.
The concept of child welfare, its historical perspective, changing nature, and contemporary policies, programs, and services. Variable. *Prerequisite: SOWK 370 or permission of the Department.*

SOWK 375 Human Behavior and the Social Environment I 3 cr.
Analysis of the interrelationships of culture, society, and the development and behavior of the individual. Focus on life span development from prenatal to death. Every semester. *Prerequisites: SOCI 100 or SOCI 111. Prerequisite or corequisite: PSYC 150 or PSYC 151, BIOL 109 or Health Science Administration major.*

SOWK 377 Human Behavior and the Social Environment II 3 cr.
Examines the development of individual and group behavior from an ecological systems perspective. The course fosters an understanding of the total person by integrating knowledge gained in other liberal arts courses. Every semester. *Prerequisites or corequisites: SOWK 305, SOWK 371, and SOWK 375.*

SOWK 379 Foundations for Generalist Practice 3 cr.
Basic procedures in social work: verbal and nonverbal communication, listening, observing, developing relationships, interviewing, and recording. Every semester. *Prerequisite: SOWK 370 or permission of the Department.*

SOWK 468 Sociology of Later Life 3 cr.
The dimensions of aging, including the aging process, the implications of increasing life expectancy, and societal reactions to the aged. Variable. *Prerequisite: SOCI 100 or SOCI 111.* Also offered as SOCI 468.

SOWK 470 Generalist Practice with Individuals & Families 3 cr.
Beginning theories and techniques of social work intervention within social systems utilizing an eclectic, ecological, problem-solving approach. Every semester. *Prerequisites: SOWK 377 and 379 or permission of the Department. Enrollment limited to Social Work majors.*

SOWK 471 Generalist Practice with Communities & Organizations 3 cr.
Advanced theories and techniques of social work intervention within social systems utilizing an eclectic, ecological, problem-solving approach. Every semester. *Prerequisites: SOWK 377 and SOWK 379. Prerequisites or corequisites: SOWK 470 and SOWK 473. Enrollment limited to Social Work majors.*

SOWK 473 Generalist Practice with Groups 3 cr.
Study of interpersonal dynamics that occur in a broad range of groups including support groups, psychoeducational groups, interdisciplinary teams, committees, and social action groups. The course emphasizes the development of core practice skills to facilitate the functional work of such groups. *Prerequisite: SOWK 377 and SOWK 379. Prerequisite or corequisite: SOWK 470. Enrollment limited to Social Work majors.*

SOWK 490 Special Topics in Social Work 1-3 cr.
Either a practicum to develop social work skills, or a content-oriented seminar to explore a topic of relevance to the Social Work profession. Does not duplicate any other course offered by the Department. Topics rotate each time the course is offered. Students may suggest topics and projects to the Department Chair. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: SOWK 370 and permission of the instructor.*

SOWK 492 Social Work Seminar 3 cr.
Professional capstone course to integrate classroom and field experience. Required co-registration in SOWK 495. Graded A-F. Every semester. Enrollment limited to Social Work majors. *Prerequisites: SOWK 471, senior standing, and completion of all prerequisite major and GEP course work. Capstone.*

SOWK 495 Internship in Social Work 12 cr.
Required, integral part of Social Work major. Provides semester of full-time, generalist social service activity and social work intervention. Required co-registration in SOWK 492. Graded P/F. Every semester. Enrollment limited to Social Work majors. *Prerequisites: SOWK 471; senior status; 2.3 GPA in major and overall; completion of all prerequisite major and GEP course work; attendance at orientation meeting in semester prior to internship; submission of internship application at the beginning of the semester preceding internship which includes resume. Fieldwork coordinator must approve all internships.*

SOWK 498 Readings in Social Work 1-3 cr.
Directed reading on a specific topic designed for the individual student. Summaries of readings and conclusions constitute a formal written report to be filed with the Department. Not to duplicate any other course offered by the Department. Open to any Junior or Senior Social Work major who submits a proposal to the Department. Every semester. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of instructor and Department Chair. Submit the proposal form (endorsed by the instructor) to the Department Chair prior to registering for the course and before the beginning of the semester.*

SOWK 499 Individual Problems in Social Work 1-3 cr.
Special research project open to any Junior or Senior Social Work major who submits a proposal prior to the semester of the project to the faculty instructor. Must result in a written analysis of research findings. Every semester. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of instructor and Department Chair.*

Sociology

SOCI 100 Introduction to Sociology 3 cr.
Systematic introduction to the study of society. Basic concepts, methods of study, and theories about societal structures and processes. Every semester. Not open to students who have credit for former SOCI 201. *GEP Group D.*

SOCI 111 Honors: Introduction to Sociology 3 cr.
Basic sociological analysis through simulations, selected readings, discussions, and special topics projects. Four hrs. lecture and lab projects. Credit may not be earned for both SOCI 100 and SOCI 111. Every semester. Not open to students who have credit for former SOCI 211. *GEP Group D.*

SOCI 200 Social Problems 3 cr.
Description and analysis of conditions that societies define and treat as social problems. Analysis of selected problems. Every semester. Not open to students who have credit for former SOCI 301. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 203 Sociology of Deviant Behavior 3 cr.
Analysis of various forms of deviance in contemporary society, its functions and dysfunctions, and society's response. Every semester. Not open to students who have credit for former SOCI 303. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 224 Cultural Anthropology 3 cr.
Survey of the study of human behavior in simpler tribal and peasant societies as well as in complex civilizations. Emphasis on social change. Fall. Not open to students who have credit for former SOCI 324. *(GEP Group F)*

SOCI 305 Racial and Cultural Minorities 3 cr.
Analysis of minority-majority group situations, their causes and consequences. Minorities in the United States. Every semester. Not open to students who have credit for former SOCI 220 or 320. *Prerequisite: SOCI 100 or SOCI 111.* Also offered as SOWK 305. *GEP Group F.*

SOCI 306 The Sociology of African Americans 3 cr.
A critical study of the organization of African-American society, its development, the endogenous structures and social processes that compose and define it, and its relationship to and interaction with the people and social forces external to it. Variable. Also offered as SOWK 306. *Prerequisite: SOCI 100 or 111.*

SOCI 307 African Americans in Appalachia 3 cr.
Examines the rich legacy of African Americans in Appalachia beginning with the Civil War era and ending with the contemporary world. Chronologically arranged and interdisciplinary in perspective, the course features the way in which African Americans have been active agents in shaping regional culture, politics, and economics. Fall. *Prerequisite: SOCI 100/111.*

SOCI 310 Statistics for Social Science 3 cr.
Study of social scientific applications of univariate, bivariate, and multivariate statistical techniques with emphasis on their logic, interpretation, and application. Three hours lecture, one hour lab. Every semester. *Prerequisite: completion of GEP math requirement.* Also offered as SOWK 310.

SOCI 311 Basic Research Methods 3 cr.
Techniques of research design: testing of hypotheses, sampling, data collection, measurement, and elementary statistical analysis. Every semester. *Prerequisite or corequisite: SOCI/SOWK 310. Prerequisite: three courses in sociology or permission of instructor.*

SOCI 312 Applied Social Research **3 cr.**
Collection and analysis of data to study applied social research problems. Research project, or participation in current research projects, required. Variable. *Prerequisite: SOCI/SOWK 310 and SOCI/SOWK 311, or permission of instructor.*

SOCI 322 Social Demography **3 cr.**
A study of the measurement, analysis and explanation of population size, distribution, composition, changes and problems. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 325 Community Analysis **3 cr.**
A critical appraisal of community research, including comparisons of folk, rural, urban, and suburban studies; analysis of local institutional patterns; and specific community factors such as stratification, power, and collective actions. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 326 Sociology of Rural Life **3 cr.**
Characteristics of rural population, social structure, and institutional arrangements and changes. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 328 Sociology of Urban Life **3 cr.**
A study of the city, its role in history, the problems of today, and prospects for the future. Emphasis on urbanism as a way of life. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 332 Collective Behavior **3 cr.**
Analysis of relatively episodic, unstructured, and unconventional forms of social behavior and their consequences. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 334 Gender and Social Life **3 cr.**
The social construction of gender and gender-based inequalities. Focus on contemporary American society but other cultures included. Variable.

SOCI 340 Criminology **3 cr.**
The social causes and consequences of criminal behavior. Criminal law, the police, courts, and correctional institutions. Every semester. *Prerequisite: SOCI 200 or SOCI 203.*

SOCI 345 Sociology of the Environment **3 cr.**
Examines the ambivalent relationship between human society and the natural world. Frames contemporary concerns of environmental crisis within an investigation of societies' multifaceted attitudes toward and interactions with the natural landscape, focusing on the social dimensions of the surrounding natural and human-made environments. Spring. *Prerequisite: SOCI 100/111.*

SOCI 350 Folklore in Appalachia **3 cr.**
The study of human creativity and tradition as a reflection of Appalachian culture, community, and place. Approach is expansive, providing students opportunity to study, document, and value their own cultural traditions and heritage. Variable. *Prerequisite: Sophomore standing.*

SOCI 362 Sociology of Religion **3 cr.**
A comparative study of the social organization and development of religious groups. The interrelations between religion and other facets of society and social behavior. Spring. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 364 Marriage and Family Relationships **3 cr.**
Courtship, marriage, and family relationships. Current family patterns and the feasibility of the various alternatives to marriage. Every semester. *Prerequisite: SOCI 100 or SOCI 111.* Also offered as SOWK 364.

SOCI 366 Social Inequality **3 cr.**
The theory of stratification or inequality in society; relevant social policy. Emphasis on American society and current social programs addressing inequality. Variable. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 367 Sociology of Medicine **3 cr.**
Organizations, personnel, issues, and problems in medical care. Social influences on health and illness. Variable. Not open to students who have credit for former SOCI 467. *Prerequisite: SOCI 100 or SOCI 111.*

SOCI 436 Sociological Aspects of Mass Communication **3 cr.**
The social development of the mass media, societal influences upon them, and their effects upon society. Variable. *Prerequisite: 9 hrs. of sociology or permission of instructor.*

SOCI 442 Juvenile Delinquency **3 cr.**
The social causes and consequences of juvenile delinquency. Juvenile law, the police, courts, and correctional institutions. Every semester. *Prerequisite: SOCI 340 or POSC 324 or permission of instructor.*

SOCI 443 The American Correctional System **3 cr.**
The philosophies of punishment and corrections. Analysis of programs and their effectiveness for punishment and rehabilitation of convicted criminals. Every semester. *Prerequisite: SOCI 340 or POSC 324 or permission of instructor.*

SOCI 450 Classical Sociological Theory **3 cr.**
Survey of sociological thought since Comte and its relevance to modern sociology. Construction of theory by students themselves. Fall. *Prerequisite: 21 hrs. in Sociology or permission of instructor.*

SOCI 451 Contemporary Sociological Theory **3 cr.**
Survey of contemporary sociological thought since the mid-20th century and its relevance to modern sociology. Construction of theory by students themselves. Spring. *Prerequisite: SOCI 450; 21 hrs. of Sociology or permission of instructor.*

SOCI 466 Women, Health and Healing **3 cr.**
A feminist examination and analysis of women's experiences with health and illness, including women's roles in health care systems as patients and care providers. Variable. Not open to students who have credit for former SOCI 368. *Prerequisite: SOCI 100 or SOCI 111 and junior or senior standing or permission of instructor.*

SOCI 468 Sociology of Later Life **3 cr.**
The dimensions of aging, including the aging process, the implications of increasing life expectancy, and societal reactions to the aged. Variable. *Prerequisite: SOCI 100 or SOCI 111.* Also offered as SOWK 468.

SOCI 490 Special Topics **3 cr.**
In-depth analysis of a topic selected by the instructor; may be repeated for up to 6 credits if topics are substantially different. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisites: 6 credits of sociology or permission of the instructor*.

SOCI 491 Seminar in Sociology **3 cr.**
Advanced studies in selected topics. Individual study and research for class reports. Formal paper required. Variable. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of instructor. Capstone.*

SOCI 492 Internship Seminar/Research Paper **3 cr.**
Academic component of internship. Required co-registration in 495. Graded A-F. Every semester.

SOCI 495 Internship in Sociology **6 or 12 cr.**
Experiential component of internship; guided work experience in conjunction with 492; must directly relate to academic program. Full-time interns register for 12 credits in 495 and 3 credits in 492 and may not enroll in other courses. Part-time interns register for 6 credits in 495 and 3 credits in 492. Graded P/F. Every semester. *Prerequisites: Junior or senior status; 18 hours in sociology; 2.0 GPA in major and overall; attendance at orientation meeting in semester prior to internship; submission of internship application by fifth week of semester prior to internship; application includes (1) resumé, (2) proposal, (3) letter of acceptance from proposed agency.*

SOCI 498 Readings in Sociology **1-3 cr.**
Open to any upper-level student who submits a proposal, prior to the semester of study, to the professor who will supervise the work. Department Chair's written approval of the proposal is required. Formal report of study is required and filed. Every semester. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of instructor.*

SOCI 499 Individual Problems in Sociology **1-3 cr.**
Special research project open to any upper-level student who submits a proposal, prior to the semester of the project, to the professor who will supervise the project. Department Chair's written approval of the project is required. Formal report of the study is required and filed. Every semester. Repeatable for maximum of 6 credits if topics are substantially different. *Prerequisite: permission of instructor.*

Sustainability Studies

SUST 155 Introduction to Sustainability Studies **3 cr.**
Introduction to sustainability as a field of study and a career. Consideration of environmental, economic, and social equity aspects of sustainable living. Group practicum project. Three hr. lecture, two Saturday group projects required. Also offered as IDIS 155. Every semester. *GEP Group E.*

SUST 455 Seminar in Sustainability Studies **3 cr.**
Exploration of environmental, economic, and social equity issues relating to sustainability. Individual seminar project. Group practicum project. Three hr. lecture, two Saturday group projects required. Spring.

Theatre

THEA 104 Theatre **1/2 to 1 cr.**
Practical application of principles of acting, directing, or technical aspects, open to all students. Minimum 45 clock hours. Repeatable for credit each semester of enrollment; 3 credit hours in a production area required for major. Every semester.

THEA 106 Introduction to Theatre **3 cr.**
Basic elements of theatre; play, playwright, performer, director, audience, designer, and technicians. Survey of theatrical forms from ancient times to the present. Practical experience with University Theatre productions working in design shops or back stage. Every semester. *GEP Group A.*

THEA 107 Introduction to Theatrical Vision **3 cr.**
A general study of design for the theatre aimed at an understanding and facility in visual thinking, visual communication, and visual evaluation. Covers general design terminology, basic design research, basic design skills, and introduction to theatre styles and conventions. Two 75-minute lectures and one 75-minute lab consisting of practical experience in design shops and performance spaces. Every semester. *GEP Group A.*

THEA 110 Introduction to Acting **3 cr.**
Introductory preparation for acting through developmental exercises. Every semester.

THEA 202 Stage Management **3 cr.**
Study of the responsibilities of theatrical stage managers. Training in techniques through the pre-production, design, rehearsal, technical process and performance. Variable. *Prerequisite: THEA 107 or permission of instructor.*

THEA 203 Costume Technologies **3 cr.**
Introduction of the use of costume crafts in theatre. Course will focus on principles, techniques and practical application of make-up and hair (for both the actor and designer) as well as patterning, draping, construction and fitting of costumes. Variable. *Prerequisite: THEA 107 or permission of instructor.*

THEA 204 Stagecraft **3 cr.**
Study and practice in constructing, handling, rigging, and shifting scenery and properties. Attention given to techniques with metals and plastics. Fundamentals of drafting techniques for theatrical application including CAD. Work on department productions required. Three-hour lecture/demonstration. Spring.

THEA 205 Fabrication Technologies **3 cr.**
Study in theatre fabrication techniques for scenic and properties construction. Training in metal work, welding techniques and properties construction. Variable. *Prerequisite: THEA 107 or permission of instructor.*

THEA 206 Modern American Drama **3 cr.**
An introductory survey of representative American plays and playwrights of the 20th century with attention to the evolution of Modern American Theatre and analysis of the efforts of the playwright and theatrical professionals. Also offered as ENGL 206. Spring. *Prerequisites: THEA 106 and ENGL 101/111.*

THEA 207 TheatreCAD **3 cr.**
Computer Assisted Design (CAD) for theatre. Study of software programs and their technical application as design and drafting tools for the theatre industry. Variable. *Prerequisite: THEA 107 or permission of instructor.*

THEA 208 Acting: Basic Principles and Application **3 cr.**
An introduction to and exploration of the basic principles of various modern acting methods through lecture, exercises and the practical application of these methods. Every semester. *Prerequisite: THEA 110 or permission of instructor.*

THEA 210 Voice and Movement **3 cr.**
Introduction to voice and movement for the stage. Development of vocal and physical awareness and expression through fundamental exercises for voice and body and study of the anatomy and physiology of vocal production. Fall. *Prerequisite: THEA 208 or permission of instructor.*

THEA 211 Voice and Movement II **3 cr.**
Advanced study in voice and movement with emphasis on stage movement and physicality. Focus on engaging and connecting body and voice during performance. Spring. *Prerequisite: THEA 210 or permission of instructor.*

THEA 304 Sound Design **3 cr.**
Study of conceptual and technical aspects of sound design for the theatre. Includes design analysis, music, composition and practical training with sound systems, consoles and sound software. Variable. *Prerequisite: THEA 107 or permission of instructor.*

THEA 305 Scene Design **3 cr.**
Techniques of scene design; scenic styles and forms; esthetic principles including ground plan, front and rear elevation, rendering, and building of models. Practical experience with University Theatre productions working in design shops required. Fall. *Prerequisite: THEA 107 or permission of instructor. Recommended: THEA 204.*

THEA 306 Stage Lighting **3 cr.**
Lighting as artistic design: theory and practice, types of equipment, use and deployment, and innovations. Practical experience with University Theatre productions working in design shops required. Spring. Not open to students who have credit for former CMAT 306. *Prerequisite: THEA 107 or permission of instructor. Recommended: THEA 204.*

THEA 307 Costume Design **3 cr.**
Studio course in design of costumes for theatre; visual interpretation of plays through character. History of dress; fashion effects; styles, fabric, draping, costume constructions. Practical experience with University Theatre productions working in design shops required. Spring. *Prerequisite: THEA 107 or permission of instructor.*

THEA 308 Directing **3 cr.**
Basic techniques for directing with practice in interpretation and staging of plays from the modern era. Every semester. *Prerequisite: THEA 106, 107, 206.*

THEA 310 Voice and Speech **3 cr.**
Development of voice and speech aimed at producing effortless, spontaneous, healthy, and clear speech for performance. Exploration of organs of speech and speech phonemes through study and application of the International Phonetic Alphabet. Fall. *Prerequisite: THEA 210 or permission of instructor.*

THEA 315 Creative Dramatics **3 cr.**
Creative dramatic activity for learning and self-development of the child. Laboratory experience in supervising creative dramatic activity. Variable. *Prerequisite: permission of instructor.*

THEA 318 Acting: Analysis and Performance **3 cr.**
A further exploration through lecture, exercises and scene work of various modern acting techniques with an emphasis on character development, script analysis and scene study. Fall. *Prerequisite: THEA 208 or equivalent.*

THEA 319 Acting Shakespeare **3 cr.**
Acting Shakespeare through selected monologues, text analysis, scansion, rhetorical structure, imagery and investigation of language, stylistic demands and verse. Spring. *Prerequisite: THEA 318 or equivalent.*

THEA 340 Theatre Management **3 cr.**
Business management of theatre organization; budget and finances, play leasing and promotion, box office. Spring. *Prerequisite: permission of instructor.*

THEA 350 Playwriting **3 cr.**
Study of the basic elements of an practice in writing for the theatre. Action, conflict, character and dialogue will be explored through building-block exercises which culminate in the writing of a one-act play. Fall, odd-numbered years. Repeatable no more than 2 times for credit. *Prerequisites: ENGL 101/111, THEA 206* ***and*** *permission of instructor.*

THEA 360 Stage Combat **3 cr.**
Intensive study of safety and performance techniques required for staging violence in the theatre. Students will work with combat elements while also dealing with dramatic narrative. Variable. *Prerequisites: THEA 208, THEA 210 or permission of instructor.*

THEA 400 Theatre Production **3 cr.**
Practical application of the principles of theatre production on the advanced level, involving participation in actual production, classes, and workshops of university-affiliated professional theatre. Repeatable no more than 3 times for credit. Variable. *Prerequisite: permission of department. Production Capstone – Technical.*

THEA 407 Topics in Production Techniques **2 or 3 cr.**
Detailed techniques concerning a particular production subject announced in advance. Lecture and practical laboratory. Repeatable no more than 3 times for credit. Variable. *Prerequisite: permission of instructor.*

THEA 408 Advanced Directing **3 cr.**
Advanced techniques for directing, with practice in interpretation and staging of plays from both modern and period styles. Credit cannot be earned for both THEA 325 and THEA 408. Variable. *Prerequisite: THEA 308.*

THEA 410 Dialects **3 cr.**
Intensive exploration of foreign and American dialects for performance. Awareness of cultural, physical and vocal rhythms of dialect. Spring. *Prerequisite: THEA 310. Recommended: THEA 210.*

THEA 420 Marketing Yourself as an Actor **3 cr.**
An introduction to the business of acting and instruction in specific methods and strategies that the actor can implement to advance his/her career. Fall. *Prerequisites: THEA 318. Acting capstone.*

THEA 425 History of the Theatre I **3 cr.**
Survey of theatrical history from pre-historic origins to English Renaissance with emphasis on the conventions of the Greek theatre. Includes treatment of historical background, dramatic forms, play analysis, plays and playwrights, and theatrical spaces in the various periods. Fall, odd-numbered years. *Prerequisite: THEA 106.*

THEA 426 History of the Theatre II **3 cr.**
Survey of theatrical history from Elizabethan Age to early 20th century with emphasis on the rise of realism and the anti-realistic movements that arose in response. Includes treatment of historical background, dramatic forms, plays and playwrights, and the physical theatre of the various movements. Spring, even-numbered years. *Prerequisite: THEA 106.*

THEA 428 Women Through Theatre **3 cr.**
Seminar providing an historical survey of women's participation in theatre, examination of images of women in dramatic literature, and exploration of the contemporary world of women in theatre and related fields. Spring, odd-numbered years.

THEA 431 World Drama I: Premodern **3 cr.**
World Drama from the 5th century B.C. Greeks to the late 19th century. Representative dramatists and forms from both the West and the East. Multicultural emphasis on the use and development of drama. Fall, even-numbered years. *Prerequisite: ENGL 150/250 or THEA 106 or permission of instructor. Also offered as ENGL 431.*

THEA 432 World Drama II: Twentieth Century **3 cr.**
World Drama during the twentieth century. Representative dramatists and forms from both the West and the East. Multicultural emphasis on the variety of dramatic forms. Alternate years. *Prerequisite: ENGL 150/250 or THEA 106 or permission of instructor.* Also offered as ENGL 432.

THEA 450 Experiments in Scripting and Staging **3 cr.**
Creating scripts from existing sources, both narrative and non-narrative, with emphasis on traditionally non-dramatic/non-theatrical material. Staging experimental performances of the scripts. Spring, even-numbered years. Credit cannot be earned for both THEA 309 and THEA 450. *Prerequisites: THEA 308 and permission of instructor. Theatrical Studies Capstone.*

THEA 460 Physical Comedy **3 cr.**
Intensive study of the techniques, theories and basic principles of comedy. Students will create physical comedic theatre through exercises and practical application of these methods. Variable. *Prerequisites: THEA 208, THEA 210 and THEA 308 or permission of instructor.*

THEA 465 Projects in Theatrical Design **3 cr.**
Advanced design projects in scenery, lighting, or costumes. Emphasis on musical forms: opera, dance, and musical theatre. Practical experience with University Theatre productions working in design shops required. Weekly presentations. Repeatable no more than 3 times for credit. Variable. *Prerequisites: THEA 305, 306 or 307, and written permission of the instructor. Production Capstone – Design.*

THEA 466 Projects in Directing **1-3 cr.**
Direction of a play for public performance through the FSU University Theatre Program. For advanced students, who must submit a formal proposal at least 6 months in advance. Project approval by departmental committee also is required. Repeatable no more than 2 times for credit. Every semester. *Prerequisites: THEA 107, 206, 308 and 325 and/or 450.*

THEA 489 Special Topics in Acting **3 cr.**
Study and performance of scenes from important nonrealistic forms of drama: pre-modern, contemporary, or experimental. Variable. *Prerequisite: permission of instructor.*

THEA 490 Special Topics in Theatre Arts **3 cr.**
Research or applied experience on an announced selected topic. Repeatable for maximum of 18 credits if topics are substantially different. Variable. *Prerequisite: permission of instructor.*

THEA 492 Internship Project **3 cr.**
Academic component of internship experience, in conjunction with THEA 495. Graded A through F. Variable. *Corequisite: THEA 495.*

THEA 493 Field Work in Theatre Practice **1 to 3 crs.**
Participation in production and/or management in an approved theatre or in an organization in a related communication field. Participants in a university-affiliated professional theatre may be eligible. Repeatable for maximum of 9 credits if topics are substantially different. Variable. *Prerequisite: permission of department.*

THEA 495 Internship in Theatre **6 or 12 crs.**
Experiential component of internship: guided work experience directly related to student's academic program. Full-time interns register for 12 credits in 495, 3 credits in 492, and may not enroll in any other courses. Part-time interns must register for 6 credits in 495 and 3 credits in 492. Graded P/F. Variable. *Prerequisites: Junior/senior status, not on probation; declared major in theatre, minimum 12 cr., and 2.5 GPA in major; Internship Agreement Form approved by department before registering.*

THEA 499 Directed Study **1 to 6 crs.**
Intensive study through faculty-directed projects or papers. Hours arranged. Repeatable for maximum of 9 credits. Variable. *Prerequisite: permission of Department Chair.*

Women's Studies

For descriptions of other Women's Studies courses, refer to the description of the Women's Studies minor and appropriate departmental course listings.

WMST 201 Introduction to Women's Studies **3 cr**
A multicultural and multidisciplinary survey of the traditional assumptions about women. Students will gain an understanding of the intersection of gender with race, class, ethnicity, religion, and sexual orientation, and issues of ability/disability. Fall. GEP Group F.

WMST 491 Seminar in Women's Studies **3 cr.**
A synthesizing experience on selected topics in Women's Studies. Variable. *Prerequisite: WMST 201 or permission of instructor.*

WOMEN'S STUDIES

WMST 494 Practicum in Women's Studies **1-6 cr.**

A Women's Studies related work experience at an approved site. A formal written report must be filed with the Women's Studies faculty supervisor. Variable. Graded P/F. Prerequisites: WMST 201, and two Women's Studies electives, and permission of program coordinator.

WMST 499 Independent Study **1-3 cr.**

Directed research, practicum or other individualized learning experience on a specific topic in Women's Studies. Formal written report to be filed with the Women's Studies faculty supervisor. Variable. Prerequisites: WMST 201 and permission of program coordinator.