Course Descriptions

How to Read a Course Description
Courses listed in this section describe all courses approved for offering by the University of Arkansas. The courses are listed alphabetically by code. The word “course” refers to a unit of academic instruction, while the word “class” refers to a course scheduled during a semester or summer session with a certain number of prescribed meetings each week. Successful completion of a class usually earns a specified number of semester hours of credit toward a degree.

The Schedule of Classes lists classes available in a specific semester, along with the instructor of record, time and place the class is being held.

Course Description Explanations
A course listing comprises the following elements, in order:

Course Prefix: This alpha descriptor is the first identifying part of a course. This four-letter code represents the course prefix name. Usually the course prefix will be the same as the department offering the course, but occasionally the prefix is one of many different courses offered in a single department. For example, ARAB refers to Arabic courses, which are offered through the Department of World Languages, Literatures and Cultures.

Course Number: Each course is designated by a four-digit number. The first digit identifies the level of the course: 1, freshman level; 2, sophomore level; 3 and 4, junior-senior level; 5, 6, and 7, graduate level. Any exceptions to this practice are stated in the course descriptions.

Students desiring admission to courses offered at levels beyond their standing should request the instructor’s permission to enroll. (For definitions of academic status see Student Status.)

The second and third digits of the number identify the course within the department that offers it.

The fourth digit identifies the semester-hour value of the course. Credit for certain courses does not count toward some degrees (see Courses that Do Not Count Toward Degrees.)

Normally, courses meet once each week for 50 minutes for each hour of course credit. Laboratory, drill and other kinds of activity courses typically meet for two 50-minute periods per week for each hour of credit.

The letter ‘V’ is used in place of the last digit for those courses in which credit is variable. The minimum and maximum credit hours possible are given in parentheses after the course title.

The letter ‘X’ is used in place of the last digit for those courses in which fixed credit is ten or more hours.

The first three digits of the number are the same for corequisite courses (for example, a lecture and the corequisite lab or drill).

Course Suffix: A suffix to the course number further identifies the specific type of instruction:
- C - Drill or Lab Component
- L - Laboratory
- H - Honors Course
- M - Honors Laboratory

A course with no suffix is a typical lecture course (not an honors course).

Course Title: The title of the course is printed in bold letters.

Course Semester Offering: Course titles are followed by abbreviations (in parentheses) for the semester in which the course is normally offered. Cross-check with the Schedule of Classes to determine if a course is being offered. Courses marked (Sp) will be offered in the spring, courses marked (Fa) will be offered in the fall, courses marked (Su) will be offered in the summer, and courses marked (Irregular) will be offered irregularly. Consult the Schedule of Classes to verify that a course is being offered for a given term.

Course Description: A brief description of the course content and its major emphasis are stated. If the course is cross-listed (also offered under another course number) a “Same As” statement will be included in the description. If the course is eligible to be repeated for degree credit more than once, a statement will appear to indicate the total hours or times a course may be repeated. If no repeated statement is listed, the course may be used for degree credit only once.

Requisites: Requisites are requirements that must be fulfilled either before a course may be taken or at the same time a course is taken. It is the student’s responsibility to make sure the proper prerequisites have been completed before enrolling in any class. Prerequisites are courses or requirements that must be completed prior to enrolling in a certain course. Courses may have prerequisites from inside and outside the department. It is the student’s responsibility to make sure he/she has completed the proper prerequisites before enrolling in any class. Courses listed as corequisite are to be taken in the same semester as the course desired.

A course listed as both a pre- and corequisite are requirements that if not taken prior to enrolling in a course, must be taken during the same semester as the course.

Students may not enroll in courses for which they do not have the necessary requisites. Students who are in doubt concerning their eligibility to enroll in specific courses should consult with their academic adviser. Students may be dropped from courses for which they do not have the necessary requisites.

African and African American Studies (AAST)

AAST1003 Introduction to African American Studies (Fa) This course is an interdisciplinary study of the tangible and intangible contributions made by the indigenous people of Africa and their descendants to the world order and society with an emphasis on their manifestations in the United States of America.

AAST2323 African American History to 1877 (Fa) The course will study the African beginnings, the Caribbean and Latin American influences, and the African American early struggle to survive slavery in the new world, and the continuing social, political, and economical quest to become a first class citizen in American society until Reconstruction, 1492-1877. (Same as HIST 3233)

AAST3243 African American History Since 1877 (Sp) The course will study the major social, political, and economical issues relating to the African American experience beginning with the late post-Reconstruction period and will include all of the major personalities and influences in the Civil Rights Movement, from 1877 to the present.

AAST3253 The History of Sub-Saharan Africa (Fa) Sub-Saharan African history from the 18th century to the present, with emphasis on the impact of the slave trade, colonization, Independence, and contemporary issues
of the post-colonial period. Examination of the ways Africans experienced change in terms of culture, society, economics, gender, religion, politics, and labor.

AAST3263 African Americans in Film (Irregular) A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023 and advanced standing. (Same as COMM 3263, ENGL 3263, JOUR 3263)

AAST3293 African American Politics (Irregular) This is a survey course designed to provide students with a comprehensive overview of African American political participation in the United States. In addition to analyzing important events in African American Politics, the course attempts to explain evolving patterns of political participation in Black America. (Same as ANTH 4063)

AAST4063 Women in Africa (Irregular) Diversity of women's life experiences throughout sub-Saharan Africa will be examined. The class will investigate a range of topics, from marriage and motherhood to prostitution and popular culture. A historical dimension will be present throughout the course, and perspectives from literature and film will also be incorporated. (Same as ANTH 4063)

AAST4093 The History of African Americans and Social Justice (Even years, Fa) Explores how the United States has extended social justice to African Americans during the nation's history. Examines social justice for blacks and the impact of historic policies and practices on black life today.


AAST4383 The American Civil Rights Movement (Irregular) Introduction to the history and development of the civil rights movement in the United States. (Same as HIST 4383)

AAST4483 African American Biographies (Irregular) Introduction to the history and intellectual development of famous and not-so-famous African Americans. (Same as HIST 4483)

AAST4533 Accounting Technology (Sp, Fa) This course provides an overview of accounting information systems and illustrates the importance of technology to accountants. Students are exposed to a variety of information technologies including manual, file-oriented, and database systems. The relative advantages and disadvantages of each type of system are highlighted and discussed. Prerequisite: ACCT 3013 or ACCT 3723 with a grade of C or better.

ACCT2013 Accounting Principles (Sp, Fa) Introduction of accounting as an information system with emphasis on processing and presenting information in the form of financial statements for use in decision making. Corequisite: WCOB 2043.

ACCT310V Accounting Internship (Sp, Su, Fa) (1-3) This class is designed to give students an internship opportunity to combine their formal academic preparation with an exposure to the accounting profession. Prerequisite: ACCT 3723. May be repeated for up to 3 hours of degree credit.

ACCT3533 Accounting Technology (Sp, Fa) This course provides an overview of accounting information systems and illustrates the importance of technology to accountants. Students are exposed to a variety of information technologies including manual, file-oriented, and database systems. The relative advantages and disadvantages of each type of system are highlighted and discussed. Prerequisite: ACCT 3013 or ACCT 3723 with a grade of C or better.

ACCT3613 Managerial Uses of Accounting Information (Sp, Fa) Use of accounting information for managerial decisions in a changing, global environment. Identifying the specific information needs of managerial decisions, focusing on the role of both financial and non-financial accounting information within the context of a continually changing information system technology. Covers business as well as non-profit and governmental organizations. This course includes spreadsheet analysis. Prerequisite: ACCT 2013 with a grade of "C" or better.

ACCT3723 Intermediate Accounting I (Sp, Fa) This course is designed to study the theoretical basis for financial accounting concepts and principles related to financial reporting. This course emphasizes researching technical accounting pronouncements for application to external financial reporting issues. Corequisite: WCOB 2043. Prerequisite: ACCT 3013 or ACCT 3723 with a grade of C or better.

ACCT3753 Intermediate Accounting II (Sp) This is the second financial accounting course designed to continue study of financial accounting concepts and principles. This course emphasizes research of technical accounting pronouncements for application to external financial reporting issues. Prerequisite: ACCT 3723 with a grade of "C" or better.

ACCT3843 Fundamentals of Taxation (Sp, Fa) Overview of basic income tax principles and tax planning techniques. Overview of the income tax treatment of business entities. Focus on the income tax treatment of individuals (with emphasis on the Federal Income Tax). Prerequisite: ACCT 2013 or ACCT 3013 or ACCT 3723, each with a grade of C or better.

ACCT4003H Honors Accounting Colloquium (Fa) Explores events, concepts and/or new developments in the field of accounting. Corequisite: Senior standing.

ACCT410V Special Topics in Accounting (Irregular) (1-3) Explore current events, concepts and new developments relevant to Accounting not available in other courses. Prerequisite: ACCT 3723 with a grade of "C" or better. May be repeated for credit.

ACCT4203 Taxation of Business Entities (Irregular) Focus on the income tax treatment of corporations and pass-through business entities. Prerequisite: ACCT 3843 with a grade of C or better.

ACCT4673 Product, Project and Service Costing (Fa) Cost systems with emphasis on information generation for cost management of products,
projects and services. The course includes spreadsheet and other computer program analysis. Prerequisite: ACCT 3613 and ACCT 3723 with grades of C or better.

ACCT4963 Audit and Assurance Services (Sp) Professional standards and procedures as applied to external and internal assurance engagements. Including coverage of the economic role of assurance providers, engagement planning, risk assessment, evidence gathering, and reporting. Prerequisite: ACCT 3723 with a grade of "C" or better.

ACCT5223 Accounting for Supply Chain & Retail Organizations (Fa) Highlights the role played by accounting information in managing supply chains and retail operations. Provides tools for managing cost flows, including activity-based costing, retail accounting, and operational budgeting. Focuses on improving decision making processes, and linking the impact of retail/ supply chain decisions to financial statements and shareholder value.

ACCT5413 Advanced Financial Accounting (Fa) Integrated course which examines the financial reporting, tax, managerial, systems and auditing aspects of major corporate restructuring arising from events such as mergers, acquisitions, spinoffs, reorganizations and downsizing. Prerequisite: ACCT 3753 with a grade of "C" or better.

ACCT5433 Fraud Prevention and Detection (Fa) An examination of various aspects of fraud prevention and detection, including the sociology of fraud, elements of fraud, types of fraud involving accounting information, costs of fraud, use of controls to prevent fraud, and methods of fraud detection. Prerequisite: MBAD 512V with a grade of "C" or better.

ACCT5443 Asset Management (Irregular) Managing assets to achieve corporate strategy. Included are issues such as strategy formulation, acquisition processes, internal controls, system requirements, accounting measurements, inventory models, re-engineering, capital budgeting, tax issues, and discussion of current business events that have ethical implications. Prerequisite: MBAD 513V with a grade of "C" or better.

ACCT5463 Financial Statement Analysis (Sp) This course is designed to study financial statements and their related footnotes; tools and procedures common to financial statement analysis; the relationships among business transactions, environmental forces (political, economic, and social), and reported financial information; and how financial statement information can help solve certain business problems. Prerequisite: ACCT 3723 with a grade of "C" or better.

ACCT549V Special Topics in Accounting (Irregular) (1-3) Seminar in current topics not covered in other courses. Students may enroll in one or more units. May be repeated for up to 3 hours of degree credit.

ACCT5873 Advanced Taxation (Fa) In-depth coverage of the tax treatment of corporations including advanced tax issues. Introduction to tax research including the organization and authority of tax law; accessing and using the tax law; and, applying tax law to taxpayer scenarios. Prerequisite: ACCT 3843 or equivalent with a grade of "C" or better.

ACCT5883 Individual Tax Planning (Sp) In-depth coverage of the tax treatment of passthrough business entities including advanced tax issues. Overview of the income tax treatment of estates and trusts. Overview of the essentials of estate and gift taxation. Prerequisite: MBAD 512V or ACCT 3843 each with a grade of "C" or better.

ACCT5953 Auditing Standards (Fa) Professional aspects of financial statement auditing and registered auditors. Including ethics and legal responsibilities; internal control testing; critical evaluation of evidence; application of sampling; and reporting problems. Prerequisite: ACCT 4963 with a grade of "C" or better.

ACCT6013 Graduate Colloquium (Irregular) Presentation and critique of research papers and proposals. May be repeated for up to 9 hours of degree credit.

ACCT6033 Accounting Research Seminar I (Irregular) First course in the accounting research seminar sequence which explores and evaluates current accounting literature. Course content reflects recent developments in the literature and specific interests of participants. Examples of potential topics include research methods in accounting, managerial accounting, behavioral accounting.

ACCT6133 Accounting Research Seminar II (Irregular) Second course in the accounting research seminar sequence which explores and evaluates current accounting literature. Course content reflects recent developments in the literature and specific interests of participants. Examples of potential topics include research methods in accounting, financial accounting, managerial accounting, behavioral accounting, tax, audit, international accounting, and education. Prerequisite: ACCT 6033.

ACCT6233 Accounting Research Seminar III (Irregular) Third course in the accounting research seminar sequence which explores and evaluates current accounting literature. Course content reflects recent developments in the literature and specific interests of participants. Examples of potential topics include research methods in accounting, financial accounting, managerial accounting, behavioral accounting, tax, audit, international accounting, and education. Prerequisite: ACCT 6033.

ACCT636V Special Problems in Accounting (Sp, Fa) (1-6) Special research project under supervision of a graduate faculty member.

ACCT6433 Accounting Research Seminar IV (Irregular) Fourth course in the accounting research seminar sequence which explores and evaluates current accounting literature. Course content reflects recent developments in the literature and specific interests of participants. Examples of potential topics include research methods in accounting, financial accounting, managerial accounting, behavioral accounting, tax, audit, international accounting, and education. Prerequisite: ACCT 6033.

ACCT6633 Accounting Research Seminar V (Irregular) Fifth course in the accounting research seminar sequence which explores and evaluates current accounting literature. Course content reflects recent developments in the literature and specific interests of participants. Examples of potential topics include research methods in accounting, financial accounting, managerial accounting, behavioral accounting, tax, audit, international accounting, and education. Prerequisite: ACCT 6033.

ACCT700V Doctoral Dissertation (Sp, Fa) (1-18) Prerequisite: Candidacy.

ADLL5113 Perspectives in Adult Education (Sp, Fa) Historical overview of the evolving field of adult education and lifelong learning in responsibilities of adult education providers and reviews the expansion of adult and lifelong learning opportunities associated with societal and demographic shifts.

ADLL5123 Principles and Practices of Adult Learning (Su, Fa) Overview of the adult learner including characteristics, motivation for participating in learning, and strategies for developing educational programs for diverse adult populations.
ADLL5133 Curriculum Development in ABE and ASE (Fa) Curriculum development in Adult Basic Education (ABE) and Adult Secondary Education (ASE) settings including the various educational functioning levels, measures to assess student levels, selection of teaching materials, and development of curriculum utilizing instructional standards for ABE and ASE programs.

ADLL5143 Instructional Strategies and Assessment in Adult Education (Sp) Selection and utilization of materials and instructional methods for use in adult learning settings. Evaluative strategies to develop or select appropriate tools and techniques predicated upon the needs and goals of adult learners.

ADLL5153 Organization and Administration of Adult and Lifelong Learning Programs (Sp) Legal, ethical, staffing, and financial considerations for the development and implementation of programs for adult and lifelong learners in various programs including literacy centers, GED centers, community education, lifelong/leisure learning, and postsecondary education.

ADLL5163 Managing Change in Adult and Lifelong Learning (Su, Fa) Strategies for planning, organizing, and facilitating change in programs that serve adult learners from diverse populations, across varied developmental stages and geographic locations. Discussion of social change that has impacted adult education and analysis of change models relevant to individuals, groups and organizations.

ADLL5173 Program Planning (Su) Program development process for adult and lifelong learners. Overview of assessment, developing program objectives, identifying resources, and designing program plans.

ADLL5193 Technology and Innovation in Adult Learning (Su) Techniques for designing, developing, implementing, and assessing technology-mediated adult and lifelong learning programs. Discussion of issues relevant to the use of innovative strategies for delivering instruction via emerging technologies and their potential impact on content and learning outcomes.

ADLL5193 Seminar in Adult and Lifelong Learning (Sp, Su) Seminars focused on topics related to adult and lifelong learning.

ADLL5213 Adult and Lifelong Learning Internship (Sp, Fa) Internship in adult and lifelong learning settings

ADLL5223 Adult and Lifelong Learning Applied Project (Sp, Su, Fa) Development and Implementation of a project focused on adult and lifelong learning. Consent of advisor/instructor required.

ADLL6113 Advanced Adult Learning Theory (Irregular) Advanced study of theories and models of adult and lifelong learning with an emphasis on current trends, recent research, and issues affecting the field. Issues covered will include critical theory and advancements in neuroscience and cognition as they relate to adult learning and lifespan development.

ADLL6113 Advanced Adult Learning Theory (Irregular) Advanced study of theories and models of adult and lifelong learning with an emphasis on current trends, recent research, and issues affecting the field. Issues covered will include critical theory and advancements in neuroscience and cognition as they relate to adult learning and lifespan development.

ADLL6123 Leadership and Ethics in Adult and Lifelong Learning (Irregular) This doctoral course focuses on leadership principles and ethical considerations that are critical to developing and sustaining adult education programs that benefit individuals, organizations, and communities. Course content will include case study analysis and lectures from scholar-practitioners from the field.

ADLL6133 Analysis of International Adult and Lifelong Programs (Irregular) Survey of the historical and philosophical events which have shaped adult and lifelong learning worldwide. Discussion of issues affecting adult education and lifelong learning including globalization, educational access, and variance in national policies.

ADLL6143 Instructional Adaptation and Innovation in Adult and Lifelong Learning (Irregular) An overview of teaching and learning methods, styles, and techniques which are applicable when facilitating adult learners across diverse settings. Content to include teaching and learning style assessment, accommodating learning styles, physical and learning disabilities, language differences and cultural norms.

ADLL6153 Policy and Public Governance of Adult and Lifelong Learning Programs (Irregular) Policy analysis and public governance issues in adult and lifelong learning with emphasis on state and federal programs. Discussions of how to evaluate, design, and implement policy focused on promoting adult and lifelong learning activities in a myriad of organizations. Overview of trends and current issues related to policy and public governance of adult and lifelong learning.

ADLL6163 Adult Development and Psychology (Irregular) Focus on adult developmental psychology with emphasis on lifespan development and specific issues related to learning in the various stages of adulthood. Work-life balance, meaning of work, generational issues.

ADLL6173 Current Issues (Irregular) Exploration and discussion of current issues relative to adult education and lifelong learning. Focus on the review and application of current research as it relates to practice. May be repeated for up to 6 hours of degree credit.

ADLL6313 Independent Study (Irregular) Independent study of topics in adult and lifelong learning.

ADLL6413 Quantitative Reasoning in Adult and Lifelong Learning (Irregular) Methodologies for designing descriptive, correlational, and experimental studies. Development of research questions, definition of variables, selection or development of instruments, data collection, analysis, interpretation and reporting of research results. Prerequisite: ESRM 6403 or equivalent.

ADLL6423 Qualitative Reasoning in Adult and Lifelong Learning (Irregular) Methodologies for designing qualitative research studies in adult and lifelong learning settings. Selection of the appropriate qualitative tradition, selection of research subjects, development of data collection protocols, field work strategies, data analysis, data interpretation and presentation of data results.

ADLL6433 Program Evaluation (Irregular) Overview of evaluation strategies in adult and lifelong learning programs that include: development of evaluation questions, selection or development of instrumentation, data collection methods, data analysis, and reporting of evaluation results. Emphasis on practical and ethical issues associated with evaluation processes. Prerequisite: ESRM 6403 or equivalent.

ADLL6443 Adult and Lifelong Learning Dissertation Seminar Development of dissertation proposal. Formation of research question, selection of methodologies, development of problem statement, research questions, and identification of research variables, constructs of phenomena. Identification of data collection and data analysis procedures. Prerequisite: ESRM 6403, ADLL 6413, and ADLL 6323.
ADLL700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Air Force ROTC (AERO)

AERO1011 The Foundations of the United States Air Force I (Fa) A survey course designed to introduce cadets to the United States Air Force and Air Force Reserve Officer Training Corps. Topics include: mission and organization of the Air Force, officer profession and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. Leadership LAB mandatory for cadets. Corequisite: Lab component.

AERO1021 The Foundations of the United States Air Force II (Sp) A survey course designed to introduce cadets to the United States Air Force and Air Force Reserve Officer Training Corps. Topics include: mission and organization of the Air Force, officer profession and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. Leadership LAB mandatory for cadets. Corequisite: Lab component.

AERO2011 The Evolution of Air and Space Power I (Fa) A historical survey of air and space power, from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples illustrate the development of Air Force capabilities and missions. Additional topics: Principles of War and Tenets of Air and Space Power. Leadership LAB mandatory for cadets. Corequisite: Lab component.


AERO3013 Air Force Leadership Studies I (Fa) A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and the communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations. Corequisite: Lab component.

AERO3023 Air Force Leadership Studies II (Sp) A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and the communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations. Corequisite: Lab component.

AERO4013 National Security Affairs and Preparation for Active Duty I (Fa) Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officer profession, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Communication skills are honed within this structure. Corequisite: Lab component.

AERO4023 National Security Affairs and Preparation for Active Duty II (Sp) Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officer profession, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Communication skills are honed within this structure. Corequisite: Lab component.

Agri, Food & Life Sciences (AFLS)

AFLS1011 Freshman Orientation (Fa) An orientation to academic expectations, policies and procedures, resources, and career exploration in agricultural, food and life sciences. Lecture two days a week during the first eight weeks of the semester.

AFLS1011H Honors Freshman Orientation (Fa) The course will serve as an introduction to the basic information and requirements of the AFLS Honors Program. The course is available to all students, but is required for students in the honors program. Topics covered will include: purpose and organization of the honors program, course requirements, research and creative activity opportunities, and written and oral communication exercises. Recitation 3 hours per week for the first 5 weeks of the semester.

AFLS2003 Introduction to Global Agricultural, Food and Life Sciences (Fa) A cross-disciplinary approach focusing on global environmental resources, animal and crop production, food safety and nutrition, agricultural marketing and merchandising, trade, agricultural policies and culture. Topics also will include transportation, law and information systems in various geographic regions. Lecture 3 hours per week.

AFLS300V Study Abroad (Sp, Su, Fa) (1-24) Open to undergraduate students studying abroad in officially sanctioned programs. Study abroad may include summer internships, special topics, coursework abroad and/or directed individual or group study abroad trips of one-to-four weeks duration. May be repeated for up to 24 hours of degree credit.

AFLS3131H Honors Global Issues in AFLS (Irregular) The course offers students the opportunity to increase their understanding of global issues related to AFLS. The course is open to all students, but first priority will be given to AFLS Honors Students. A mandatory study tour will be scheduled during Spring Break. Recitation 3 hours per week for the second 5 weeks of the semester.

AFLS3131H Honors Intro to Scientific Thinking & Methods - Logic, Reasoning, & Sci. Argumentation (Fa) A course to introduce students to general patterns of scientific thinking, and methods of scientific evaluation and conclusion building through discussions, readings, and exercises in logic, reasoning, and argumentation. Recitation 3 hours per week for the second 5 weeks of the semester.

AFLS3313H Honors Global Issues in AFLS (Irregular) The course offers students the opportunity to increase their understanding of global issues related to AFLS. The course is open to all students, but first priority will be given to AFLS Honors Students. A mandatory study tour will be scheduled during Spring Break. Recitation 3 hours per week. Prerequisite: Instructor permission. May be repeated for credit.

AFLS412H Honors Proposal Development (Sp) This course offers a synthesis level learning opportunity. Course will include creative process, ethics, proposal writing, literature review, experimental design, scientific theory and methods, data collection, statistics, budget, and summary. Students will draw on their background and presentations to create written proposals. Three hours per week for 10 weeks. Prerequisite: Junior or senior standing.
AFLS3512H Honors Rotations in Agricultural Laboratory Research (Sp) A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. 4 hours per week. Prerequisite: BIOL 1543 or equivalent.

AFLS400VH Honors Thesis (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

AFLS401VH Honors Special Topics (Irregular) (1-3) Studies of selected topics not covered in other courses. Must be in the Honors program to register for this course. May be repeated for up to 4 hours of degree credit.

AFLS4021 Internship for Ambassadors (Irregular) Practical experience gained through group dynamics, communication, planning, and implementing college-wide activities. Must be selected as a college ambassador before enrolling. May be repeated for up to 6 hours of degree credit.

AFLS4431H Honors Exploring Ethics (Fa) Exploring issues relevant to human deeds in plants, animals, and environment. Issues to be addressed include the sanctity of life issues, their role of mass media in the modern world and the responsibility of individuals as professionals. Recitation 3 hours per week for the second 5 weeks of the semester.

AFLS5001 Seminar (Fa) Review of scientific literature and oral reports on current research in the agricultural, food, and life sciences. May be repeated for up to 4 hours of degree credit.

AFLS500V Study Abroad (Irregular) (1-6) Open to graduate students studying abroad in officially sanctioned programs. May include coursework, internships, special topics, and/or directed individual or group study abroad. May be repeated for up to 24 hours of degree credit.

Agricultural Economics (AGEC)

AGEC1103 Principles of Agricultural Microeconomics (Sp, Fa) Introduction to agricultural economics, including a survey of the role and characteristics of agriculture businesses in our economic system. Basic economic concepts concerning price determination, profit maximization, and resource use are emphasized. The use of economic principles as applied to the production and marketing decisions made by managers of agricultural firms is demonstrated. Credit will be awarded for only one of AGEC 1103 or ECON 2023 or ECON 2023H. Pre- or Corequisite: MATH 1203. (Same as ECON 2023)

AGEC2103 Principles of Agriculture Macroeconomics (Sp, Fa) Applications of economics principles to problems of agricultural production, distribution, and income; including a study of the interrelationship between agriculture and other segments of the economy; and the dynamic forces in the economy which affect agriculture. Credit will be awarded for only one of AGEC 2103 or ECON 2013 or ECON 2013H. Pre- or Corequisite: MATH 1203. (Same as ECON 2013)

AGEC2141L Agribusiness Financial Records Lab (Fa) A computer lab section for the AGEC 2142 Agribusiness Financial Records class is required to teach students accounting software and spreadsheet applications related to financial record keeping. Corequisite: AGEC 2142. Prerequisite: AGME 2903 or WCOB 1120 and AGEC 1103 or ECON 2023 or ECON 2143.

AGEC2142 Agribusiness Financial Records (Fa) Principles of small agricultural business management accounting practices are taught to allow students to gain hands-on experience with financial record keeping for a business. Resulting financial statements are analyzed to determine opportunities for enhancing financial efficiency. Corequisite: AGEC 2141 Lab. Prerequisite: AGME 2903 or WCOB 1120 and AGEC 1103 or ECON 2023 or ECON 2143

AGEC2303 Introduction to Agribusiness (Su) Introduction to agribusiness issues as they relate to the food processing, wholesale and retail sectors of the agricultural industry. Coverage of methods and tools agribusiness managers use to evaluate business opportunities. Case studies serve to communicate concepts of product distribution, design, promotion and pricing in the development of a marketing plan. Prerequisite: AGEC 1103 or ECON 2023.

AGEC2403 Quantitative Tools for Agribusiness (Sp) Introduction to quantitative methods used in agricultural economics and agribusiness with an emphasis on skills and techniques that will enhance the ability of students to perform in upper division coursework. Provides an overview of statistical and optimization methods used in research problems, economic theory, and applied decision making activities. Prerequisite: AGEC 1103 or ECON 2143, and MATH 2053.

AGEC3303 Food and Agricultural Marketing (Fa) Surveys consumer trends in food markets and the marketing activities of the food and fiber system. Emphasizes marketing concepts for both commodities and differentiated food products. Topics include applied consumer and price theory; marketing management; structure and performance of the food system; and current agricultural marketing topics. Prerequisite: AGEC 1103 or ECON 2023 or ECON 2143.

AGEC3313 Agribusiness Sales (Sp) Principles of professional sales and sales management techniques used in food and agricultural firms; develop a professional sales presentation; study current agribusiness industry professional sales persons and sales practices and techniques. Prerequisite: AGEC 1103 or AGEC 2103 or ECON 2013 or ECON 2023 or ECON 2143 or equivalent, junior standing, and consent of instructor.

AGEC3373 Futures and Options Markets (Sp) Theory and mechanics of commodity futures and options markets including trading, margin, fees, etc. Price relationships between cash, futures and options. Fundamental and technical price analysis. Price risk management strategies for producers and users of agricultural commodity marketing plan. Speculative and hedging simulation exercises. Prerequisite: AGEC 1103 or ECON 2023.

AGEC3403 Farm Business Management (Fa) Application of economic principles for the profitable organization and operation of the farm business. Focuses upon agricultural production management decision-making tools: budgeting techniques (enterprise, partial, cash flow), balance sheet, income statement, cash flow, investment analysis, and risk management. Recommended: AGEC 1103 or ECON 2023, AGEC 2143, and AGME 2903.

AGEC3413 Principles of Environmental Economics (Sp) An introductory, issues-oriented course in the economics of the environment. The course will focus on what is involved in how society makes decisions about environmental quality. The environmental issues important to the State of Arkansas and the United States will be emphasized. Prerequisite: AGEC 1103 or ECON 2023. (Same as ENSC 3413)

AGEC3503 Agricultural Law I (Sp) Examination of those areas of law especially applicable to agriculture. Fundamentals of contract law, torts
law, and property law will accompany discussion of major areas of agricultural law; acquisition and disposal of farmland; farm tenancies; rights and limitations in the use and ownership of farmland; water law; environmental protection; protection of the productivity of agricultural land; and the law of sales and secured transactions in an agricultural context.

AGEC3523 Environmental and Natural Resources Law (Even years, Sp) Principles of environmental and natural resources law relevant to agriculture, food and the environmental sciences; legal principles relating to regulation of water, air, hazardous substances, land, wildlife, livestock, and water rights. Principles of civil and criminal liabilities and other developing legal and regulatory issues relating to agriculture and natural resources.

AGEC400V Special Problems (Sp, Su, Fa) (1-6) Special studies and readings conducted under the direct supervision of staff members to satisfy the requirements of individual students. May be repeated for up to 6 hours of degree credit.

AGEC401V Internship in Agribusiness (Sp, Su, Fa) (1-6) A supervised practical work experience in an agribusiness firm or a governmental or industrial organization having direct impact on agriculture in order to gain professional competence and insight to employment opportunities. Prerequisite: junior standing. May be repeated for up to 8 hours of degree credit.

AGEC402V Special Topics (Irregular) (1-3) Studies of selected topics in agricultural economics not available in other courses. May be repeated for credit.

AGEC4113 Agricultural Prices and Forecasting (Sp) Price theory and techniques for predicting price behavior of general economy and price behavior of individual agricultural products will be analyzed. Provides practice in the application of economics and statistics to agricultural price analysis. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: AGEC 1103 or ECON 2023, AGEC 2403, (introductory statistics AGST 4023 or STAT 2303 or WCOB 1033) and MATH 2053.

AGEC4143 Agricultural Finance (Fa) Methods and procedures whereby agricultural firms acquire and utilize funds required for their successful operation. Emphasis is placed upon role of finance and financial planning and consideration is given to an understanding of financial firms serving agriculture. Prerequisite(s): (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013) and (AGEC 2142 or WCOB 1023).

AGEC4163 Agricultural and Rural Development (Sp) Examination of agricultural and rural development issues in less developed countries. Alternative agricultural production systems are compared, development theories examined, and consideration given to the planning and implementation of development programs. Prerequisite: AGEC 1103 (or ECON 2023).

AGEC4303 Advanced Agricultural Marketing Management (Irregular) Marketing concepts will be developed and applied to the global food and fiber system. The course will use both commodity and product marketing principles and economic theory to analyze varied marketing situations. Case studies will be used to demonstrate the role that demand analysis and consumer behavior play in market management. Prerequisite: AGEC 2303 and AGEC 3303.

AGEC4313 Agricultural Business Management (Fa) The planning, organizing, leading and controlling functions of management as they relate to agricultural business firms. Marketing of value-added products, budgeting, organizational structure, cost control, financial statements, capital budgeting and employee supervision and motivation. Case studies are used to teach communication and decision-making skills. Prerequisite: (AGEC 2142/AGEC 2141L or AGEC 2143) or equivalent, AGEC 2303 or equivalent, and senior standing is recommended.

AGEC4323 AgriBusiness Entrepreneurship (Sp) Agribusiness entrepreneurship is the process of bringing food or rural-based products and services from conceptualization to market. The course presents the opportunities, problems and constraints facing individuals and firms operating in rural or isolated markets while emphasizing the steps in conceptualization, development, marketing, and delivery-selling of agribusiness rural products. Prerequisite: AGEC 1103 or equivalent.

AGEC4373 Basis Trading: Applied Price Risk Management (Su) Use of futures markets as risk shifting institutions. Students design and implement hedging and cross hedging strategies for grain farmers, country elevators, soybean crushers, poultry firms, etc. Spreadsheets and statistical techniques are used to develop optimal hedging ratios. Prerequisite: AGEC 3373 or consent of instructor.

AGEC5011 Seminar (Sp, Fa) Presentation and discussion of graduate student research. Formal presentations are made by all graduate students. Consideration given to research design, procedures, and presentation of results. Prerequisite: Graduate standing.

AGEC502V Special Topics (Irregular) (1-3) Advanced studies of selected topics in agricultural economics not available in other courses. Prerequisite: Graduate standing. May be repeated for credit.

AGEC503V Internship in Agricultural Economics (Sp, Su, Fa) (1-3) On-the-job application of skills developed in the M.S. program.

AGEC5133 Agricultural and Environmental Resource Economics (Even years, Sp) An economic approach to problems of evaluating private and social benefits and costs of altering the environment. Emphasis given to the interaction of individuals, institutions, and technology in problems of establishing and maintaining an acceptable level of environmental quality. Prerequisite: Minimum of 3 hours Agricultural Economics or Economics at 3000 level or higher or PhD standing.

AGEC5143 Financial Management in Agriculture (Fa) Covers advanced topics in agricultural finance. The general focus of the course is the financial management of non-corporate firms. Covers the basic tools of financial analysis including financial arithmetic, asset evaluation under risk, and financial analysis and planning using econometric models. Such topics covered include management of current assets, capital budgeting, capital structure, and institutions involved in agricultural finance. Prerequisite: Graduate standing.
AGEC5153 The Economics of Public Policy (Sp) This class will examine the impact of public policy on agricultural and other business sectors as well as households and individuals, particular in rural areas. Emphasis will also be placed on analyzing the potential impact of future policy changes. The course will focus on the application of welfare criteria and economic analyses to the problems and policies affecting resource adjustments in agriculture and rural communities. Prerequisite: Graduate standing.

AGEC5303 Agricultural Marketing Theory (Fa) Survey of the structure of agricultural product and factor markets including a critique of theoretical analyses of industry structure, conduct and performance; and a review of market structure research in agricultural industries. Prerequisite: Graduate standing.

AGEC5403 Quantitative Methods for Agribusiness (Fa) Application of quantitative techniques used to support managerial decision-making and resource allocation in agricultural firms. Provides exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in agriculture. Emphasis is placed on computer applications with conceptual linkage to economic theory. Prerequisite: Graduate standing.

AGEC5413 Agribusiness Strategy (Sp) Addresses problems of strategy formulation in agribusiness emphasizing current problems and cases in agriculture. Surveys modern and classic perspectives on strategy with applications to agribusiness. Examines the development of firm level strategies within the structure and competitive environment of agricultural firms and industries. Prerequisite: Graduate standing.

AGEC5613 Econometrics I (Fa) Use of economic theory and statistical methods to estimate economic models. The single equation model is examined emphasizing multicollinearity, autocorrelation, heteroskedasticity, binary variables and distributed lags and model specification. Prerequisite: MATH 2043 and knowledge of matrix methods, (which may be acquired as a corequisite), and (AGEC 1103 or ECON 2023) and (AGEC 2403 or AGST 4023 or STAT 2303 or WCOB 1033). (Same as ECON 5613)

AGEC5713 Food Safety Law (Irregular) This course provides students with an introduction to food law and policy, history of food regulation, the organization of federal food law and regulatory agencies, government inspection and enforcement powers, food safety standards, food labeling, food advertising and product liability. Web-based course.

AGEC5723 Bioenergy and Resource Economics (Even years, Fa) This course surveys the allocation and conservation of natural resources from a perspective of optimal use and the sustainability of resources. The development and distribution issues relating to energy, land, water, and other resource areas are addressed in the course, with emphasis placed on the bioproducts and bioenergy concerns.

AGEC5733 Bioenergy Economics and Sustainability (Fa) This course will provide an understanding of the economic issues relating to overall supply chains producing bioenergy and bio-based products. The course will address the economic, sustainability and social dimensions of these industries.

AGEC600V Master's Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

AGEC700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Agricultural Education (AGED)
least six hours of upper division agricultural science courses. Prerequisite: Junior standing.

AGED400V Special Problems in Agricultural and Extension Education (Sp, Su, Fa) (1-6) Individual study or research for advanced undergraduates in the field of agricultural and extension education.

AGED401V Special Topics (Irregular) (1-3) Studies of selected topics in agricultural or extension education not covered in other courses. (Same as AGED 4233) May be repeated for up to 4 hours of degree credit.

AGED4143 Electronic Communications in Agriculture (Even years, Sp) An overview of communication technology in the agricultural, food and life sciences.

AGED4233 Program Development (Sp) Principles and concepts of leadership, program organization, supervised agricultural experience, and advisory committees. This course is a portion of pre-professional studies required for certification in agricultural education. Prerequisite: AGED 3133. (Same as AGED 401V)

AGED4243 Graphic Design in AFLS (Sp, Su) This course provides students with graphic design and software skills specific to industries in Agriculture, Food, and Life Sciences. Students will learn to use industry-standard software (InDesign, Photoshop, Illustrator, Microsoft Excel, etc.) to prepare text and graphics and package them for use in print production. Prerequisite: AGME 2903

AGED4343 Communication Campaigns in Agriculture (Even years, Fa) Students will develop understanding of the principles, practices and applications of social marketing, integrated marketing communications, advertising and public relations as they pertain to developing communication campaign strategies for the agricultural industry. Students will develop a communication campaign for an agricultural company and/or entity focused on a specific product or service. Prerequisite: Senior or Graduate status.

AGED4443 Principles of Technological Change (Odd years, Fa) This course introduces a structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introduction, adoption, and diffusion of technological change. This course may be offered as a web-based course. Prerequisite: Junior status.

AGED4543 Ag Publications (Even years, Sp) Students produce a magazine through classroom study mirroring a professional magazine staff and are provided an opportunity for their writing, advertisements, photographs and artwork to be published in the magazine. By using computer applications, students integrate various skills including writing, editing and layout in agricultural publications. Prerequisite: JOUR 1033.

AGED4632 Teaching Diverse Populations in Agricultural and Extension Education (Sp) This course is designed to provide pre-service teachers of agriculture with an understanding of teaching diverse populations as applied to problems of practice in agricultural and extension education.

AGED475V Internship in Agri Educ (Sp, Su, Fa) (1-6) Scheduled practical field experiences under the supervision of a professional practitioner in off-campus secondary school systems. Emphasis includes classroom preparation, teaching, and student evaluation. Prerequisite: Admission into Clinical Practice. May be repeated for up to 6 hours of degree credit.

AGED4843 Methods in Agricultural Laboratories (Sp) Methods and management techniques in all types of agricultural laboratories that may be in a secondary agricultural science program. Emphasis on management of students and facilities, equipment, and materials. Lecture 2 hours, laboratory 4 hours per week. Prerequisite: AGME 2123.

AGED5001 Seminar (Sp) Presentations and discussion of graduate student research as well as review of current literature and topics of current interest by students and faculty. All graduate students will make at least one formal presentation.

AGED5013 Advanced Methods in Agricultural Mechanics (Odd years, Su) Emphasis on shop organization and management, courses of study, unit shop instruction, and development of skills in agricultural mechanics.

AGED5033 Developing Leadership in Agricultural Organizations (Fa) Organizational concepts of leadership; administrative styles and structures; leadership for boards, committees, governmental bodies, and review of societal and political processes. Prerequisite: Graduate standing.

AGED5053 Philosophy of Agricultural and Extension Education (Even years, Sp) An examination and analysis of social and economic events leading to the establishment and maintenance of federal, state, county, and local agricultural education programs. Lecture 3 hours per week. Prerequisite: Graduate standing.

AGED510V Special Problems (Sp, Su, Fa) (1-6) Individual investigation of a special problem in agricultural education which is not available through regular courses. These will be directed by a member of the graduate faculty. Prerequisite: Graduate standing.

AGED520V Special Topics in Agricultural and Extension Education (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in agriculture education. Prerequisite: Graduate standing. May be repeated for credit.

AGED5363 Educational Delivery Techniques (Irregular) Students will learn to apply teaching and learning theory in the development of engaging instruction delivered through electronic media. The goal of the course is not to make experts in “programming” or “theory”, but rather to prepare students with the knowledge/practical skills necessary to deliver curriculum through various methods. Prerequisite: Graduate standing.

AGED5463 Research Methodology in the Social Sciences (Sp) Logical structure and the method of science. Basic elements of research design; observation, measurement, analytic method, interpretation, verification, presentation of results. Applications to research in economic or sociological problems of agriculture and human environmental sciences. Prerequisite: Graduate standing. (Same as HESC 5463)

AGED5473 Interpreting Social Data in Agriculture (Fa) The development of competencies in analyzing, interpreting and reporting the results of analyses of social science data in agriculturally related professions. Students will select appropriate analysis techniques and procedures for various problems, analyze data, and interpret and report the results of statistical analyses in narrative and tabular form. Prerequisite: AGST 4023 (or EDFD 5393) and AGED 5463 (or RSOC 5463 or HESC 5463).

AGED5483 Technical Communication in the Social Sciences (Odd years, Sp) This course will provide students with the basic principles and techniques in communicating social science information relevant to human subject research in agriculture, natural resources, and life sciences to the general public. Communication processes covered in the
course include audience identification, writing, editing, and production of social science-based materials for popular and refereed publications. Focus will also be placed on thesis preparation and writing and research manuscript development and dissemination of social science research. Web delivered course. Corequisite: Graduate standing.

AGED550V College Teaching in Agriculture and Related Disciplines (Irregular) (1-3) For students who are pursuing graduate degrees where emphasis is on preparation for a research career, but who also may desire or expect to teach. Provides theory and practice in planning and executing a college-level course.

AGED575V Internship in Agricultural Education (Sp, Su, Fa) (1-6) Scheduled practical field experiences under supervision of a professional practitioner in off-campus secondary school systems. Emphasis includes classroom preparation, teaching, and student evaluation.

AGED600V Master's Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

Agricultural Mechanization (AGME)

AGME1611L Fundamentals of Agricultural Systems Technology Laboratory (Fa) Study of basic mathematical and physical science concepts important in the mechanization of agriculture. Laboratory required for agricultural education, communication and technology majors enrolled in AGME 1613, optional for others enrolled in AGME 1613. Corequisite: AGME 1613.

AGME1613 Fundamentals of Agricultural Systems Technology (Fa) Introduction to basic physical concepts important in agricultural technical systems: applied mechanics, power and machinery management, structures and electrification, and soil and water conservation. Lecture 3 hours per week. Corequisite: AGME 1611L (for AECT Majors).

AGME2123 Metals and Welding (Sp, Fa) An introduction to agricultural mechanics shop work to include hot and cold metal work, arc welding, and gas welding and cutting. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

AGME2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) Lecture and laboratory assignments covering the contemporary use of microcomputers in agricultural research, production, and home economics. Major emphasis placed on learning to use selected, appropriate software packages. Lecture 2 hours per week, laboratory 2 hours per week.

AGME3042 Agricultural Construction Technology (Sp) Principles of building design and construction. Includes site selection calculating structural loads and computerized packages for building design. Safety practices, selection of building materials and determining costs are also included. Lecture is one hour and lab is two hours per week. Prerequisite: MATH 1203 and junior standing.

AGME3101L Small Power Units/Turf Equipment Laboratory (Sp) Testing, evaluation, and maintenance of engines, hydrostatic power transmission systems, and equipment commonly used in the turf and landscaping industries. Corequisite: AGME 3102. Prerequisite: MATH 1203.

AGME3102 Small Power Units/Turf Equipment (Sp) Principles of operation, adjustment, repair, maintenance, and trouble shooting of small air-cooled engines and power units, including various engine systems, service and maintenance of turf equipment and machinery. Lecture 2 hours per week. Corequisite: AGME 3101L. Prerequisite: MATH 1203.

AGME3153 Surveying in Agriculture and Forestry (Fa) Techniques and procedures normally used in determining areas and characterizing the topography of agricultural and forest lands. Includes basic concepts of surveying; use and care of level, transit, distance measuring equipment; topographic mapping and public land surveys. Lecture and laboratory 6 hours per week. Prerequisite: MATH 1203.

AGME3173 Electricity in Agriculture (Sp) Principles of electricity; wiring of home, farmstead and other agricultural structures; selection of electric motors and their care and application in the broad field of agriculture; lighting and special uses of electricity such as heating and electrical controls. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Math 1203.

AGME400V Special Problems (Sp, Su, Fa) (1-6) Individual research or study in electrification, irrigation, farm power, machinery, or buildings. Prerequisite: Senior standing. May be repeated for credit.

AGME402V Special Topics in Agricultural Mechanization (Irregular) (1-4) Topics not covered in other courses or a more intensive study of special topics in agricultural mechanization. May be repeated for credit.

AGME4203 Mechanized Systems Management (Even years, Fa) Selection, sizing, and operating principles of agricultural machinery systems, including power sources. Cost analysis and computer techniques applied to planning and management of mechanized systems. Corequisite: Lab component. Prerequisite: Math 1203.

AGME4973 Irrigation (Sp) Methods of applying supplemental water to soils to supply moisture essential for plant growth, sources of water, measurement of irrigation water, pumps, conveyance structure, economics, and irrigation for special crops. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Math 1203.

Agricultural Statistics (AGST)

AGST4011 SAS Programming for Agricultural Sciences (Sp, Fa) An introduction to the SAS programming language with an emphasis on the reading and restructuring of data files, and the displaying of data in tabular and graphic forms. The course is taught using a hands-on approach.

AGST4023 Principles of Experimentation (Fa) Fundamental concepts of experimental and statistical methods as applied to agricultural research. Lecture 3 hours per week. Prerequisite: MATH 1203 or higher level.

AGST500V Special Problems (Sp, Su, Fa) (1-6) Individual investigation of a special problem in some area of statistics applicable to the agricultural, food, environmental, and life sciences not available under existing courses. May be repeated for up to 6 hours of degree credit.

AGST5014 Experimental Design (Sp) Types of experimental designs, their analysis and application to agricultural research. Lecture 3 hours and laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: AGST 4011 and (AGST 4023 or STAT 4003).

AGST504V Special Topics (Irregular) (1-4) Topics not covered in other courses or a broader-based study of specific topics in statistics and related areas. Prerequisite: Graduate standing. May be repeated for credit.

AGST5713 Applied Regression Analysis for Agricultural Sciences (Fa) Analysis of agricultural experiments which contain quantitative factors
through regression procedures. Lecture 3 hours per week. Prerequisite: AGST 4011 and (AGST 4023 or STAT 4003).

AGST5803 Case Studies in Biometry (Irregular) Non-standard statistical problems arising in the agricultural, food, environmental, and life sciences. Prerequisite: STAT 5113 and STAT 5313 and either AGST 5014 or STAT 4373.

AGST5901 Statistical Consulting Process (Sp) Examines the components of statistical consulting with emphasis on the interpersonal aspects.

AGST5913 Statistical Consulting Practicum (Irregular) Supervised statistical consulting. Prerequisite: STAT 5313 and AGST 5901 and either (AGST 5014 or STAT 4373).

Asian Studies (AIST)

AIST4003 Asian Studies Colloquium (Fa) An interdepartmental colloquium with an annual change of subject, required of students in the Asian studies program. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

AIST4003H Honors Asian Studies Colloquium (Fa) An interdepartmental colloquium with an annual change of subject, required of students in the Asian studies program. Prerequisite: sophomore standing. May be repeated for up to 6 hours of degree credit.

American Studies (AMST)

AMST2003 Introduction to American Studies (Fa) Introduction to American Studies as an interdisciplinary field of study. Examination of a selected topic from various methodological perspectives.

Animal Science (ANSC)

ANSC1001L Introductory to Animal Sciences Laboratory (Fa) Study of facilities used in production, processing, and management in animal agriculture. Identification, selection evaluation and testing of livestock, meat, and milk. Laboratory 3 hours per week.

ANSC1032 Introductory Animal Sciences (Fa) Students will be introduced to biological sciences associated with modern systems of care and management of livestock. Foundation sciences include topics in genetics, growth and development, physiology, nutrition, animal health, and animal behavior. Course will meet M, T, W, and R for the first eight weeks of the fall semester.

ANSC1041 Introduction to Companion Animal Industry (Fa) The importance of companion animals and their allied industries will be discussed. Application of scientific principles to the care and management of companion animals, specifically dogs, cats and horses, will be emphasized. Course will meet on T and R during the second eight weeks of the fall semester.

ANSC1051 Introduction to the Livestock Industry (Fa) The importance of livestock and their allied industries will be discussed. Application of scientific principles to the care and management of livestock, specifically beef and dairy cattle, swine, sheep, and goats will be emphasized. Course will meet on M and W during the second eight weeks of the fall semester.

ANSC1062 Sustainable Integrated Small Animal Farming (Sp) Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented. (Same as POSE 1062)

ANSC2003 Introduction to Equine Industry (Sp) Examination of careers and business opportunities in the equine industry. Students will gain the opportunity to identify high quality horses through evaluation of conformation and locomotion. Students will also gain skill at oral presentation and be knowledgeable of costs and responsibilities associated with horse ownership.

ANSC2213 Behavior of Domestic Animals (Fa) Behavior associated with domestication. Effects of selective breeding, physical and social environments, and developmental stage on social organization, aggressive behavior, sexual behavior, productivity, and training of domestic animals.

ANSC2252L Introduction to Livestock and Meat Evaluation (Sp) Develop an understanding between live animal evaluation and carcass composition. Comparative judging including meat evaluation, classification and selection of beef cattle, sheep and swine.

ANSC2304 Equine Behavior and Training (Fa) Psychology and ethology of equine social behavior and how it pertains to learning patterns. Application of fundamental behavioral concepts to training of horses. Students will apply classical, practical, and proven equine training techniques to achieve safe, less-traumatic learning for the horse and trainer. Lecture two hours and laboratory six hours per week. Prerequisite: Instructor consent.

ANSC2781 Career Preparation and Development (Fa) The importance of preparing for a career in the animal sciences and industries will be covered.

ANSC3003 Applied Animal Parasitology (Odd years, Sp) The economically important parasites of domestic animals with emphasis on their host relationships and management considerations. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

ANSC3013 Parasitisms of Domesticated Non-Herbivores (Even years, Sp) Course will provide applied instruction and appreciation for the parasitisms of our domesticated swine, chickens, turkeys, dogs and cats.

ANSC3032 Animal Physiology I (Fa) Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and (CHEM 1123 or CHEM 1073). (Same as POSC 3032)

ANSC3042 Animal Physiology II (Sp) Fundamental aspects of renal, respiratory, digestive, and endocrine physiology will be covered. The normal structure and function of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073. (Same as POSC 3042)

ANSC3123 Principles of Genetics (Fa) Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher. (Same as POSC 3123)

ANSC3133 Animal Breeding and Genetics (Sp) Application of the principles of genetics to the breeding of farm animals. Lecture 3 hours per week. Prerequisite: ANSC 1032 and MATH 1203.

ANSC3143 Principles of Animal Nutrition (Sp) Scientific approach to animal nutrition involving the mechanisms through which feed nutrients are utilized by farm animals. Lecture 3 hours per week. Prerequisite: CHEM 1073 and CHEM 1071L or CHEM 1123 or CHEM 1121L.
ANSC3151L Applied Animal Nutrition Laboratory (Fa) Practical approach to animal nutrition; use of various methods of feedstuff evaluation and ration balancing for domestic animals. Laboratory 2 hours per week. Corequisite: ANSC 3152. Prerequisite: ANSC 3143 and MATH 1203.

ANSC3152 Applied Animal Nutrition (Fa) Practical approach to animal nutrition; physical and chemical composition of feedstuffs, feed processing and preparation, nutrient interactions, and application of nutritional principles to feeding domestic animals. Lecture 2 hours per week. Corequisite: ANSC 3151L. Prerequisite: ANSC 3143 and MATH 1203.

ANSC3282 Livestock Judging and Selection (Fa) Comparative judging, including grading, classification, and selection of beef cattle, swine, sheep and horses. Oral and written discussion. Laboratory 6 hours per week. Prerequisite: ANSC 1032 or ANSC 2252L.

ANSC3291 Livestock Junior Judging Team Activity (Sp) Training for membership on judging teams, through participation.

ANSC3333 Diseases of Livestock (Sp) Introductory study of the diseases of farm animals with emphasis on fundamental principles of disease, body defense mechanisms, hygiene, and sanitation. Corequisite: Lab component. Prerequisite: BIOL 1543.

ANSC3433 Fundamentals of Reproductive Physiology (Fa) Principles of mammalian reproductive physiology with emphasis on farm animals. Lecture 3 hours per week. Prerequisite: ANSC 1032 and BIOL 1543.

ANSC3491L Artificial Insemination in Cattle (Sp) Experience with artificial insemination technique in cattle including estrus detection, semen storage and handling, insemination equipment maintenance and technique. Laboratory 4 hours per week. The course is offered the second 8 weeks of the spring semester. Prerequisite: ANSC 3433 or instructor consent.

ANSC3613 Meat Science (Fa) The study of meat science and muscle biology. Topics will include animal/tissue growth and development and the relationship to meat quality. Meat processing, preservation, and meat safety concerns will also be considered. Lecture 3 hours per week. Prerequisite: CHEM 2613 or CHEM 3603.

ANSC3723 Horse and Livestock Merchandising (Fa) Various types of merchandising programs for specific livestock enterprises will be presented. Students will evaluate the effectiveness of merchandising programs including how to organize, advertise, and manage a purebred auction sale of livestock.

ANSC3822 Equine Law (Odd years, Fa) Horse ownership presents unusual, if not unique, legal issues. This course examines the basic underpinnings of commercial transactions in horses, tort liability, business structure, environmental law and gaming regulation.

ANSC400V Special Problems (Sp, Su, Fa) (1-6) Special problems in the animal sciences for advanced undergraduate students. May be repeated for up to 6 hours of degree credit.

ANSC401V Internship in Animal Sciences (Sp, Su, Fa) (1-6) Supervised work experience with private or government organizations. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

ANSC401V Special Topics in Animal Sciences (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in animal sciences. Prerequisite: ANSC 1032. May be repeated for credit.

ANSC4252 Cow-Calf Management (Fa) Systems of cow-calf management including the practical application of the principles of breeding, feeding, and management to commercial and purebred beef cattle under Arkansas conditions. Lecture 1 hour and laboratory 2 hours per week. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 1001L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4262 Swine Production (Even years, Fa) Methods in producing purebred and commercial swine with specific emphasis on the management programs needed for profitable pork production in Arkansas. Lecture 1 hour, laboratory 2 hours per week. Corequisite: Lab component. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L and CHEM 2613 and CHEM 2611L.

ANSC4272 Sheep Production (Odd years, Sp) Purebred and commercial sheep management emphasizing the programs of major importance in lamb and wool production in Arkansas. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 1001L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4283 Horse Production (Sp) Production, use and care of horses and ponies including breeding, feeding, handling, and management. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4291 Livestock Senior Judging Team Activity (Fa) Training for membership on judging teams, through participation.

ANSC4452 Milk Production (Sp) Principles of breeding, feeding, and management of dairy cattle will be reviewed, and course will include field trip touring dairy industry. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 1001L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4482 Companion Animal Management (Fa) The study and application of principles of domestication, nutrition, reproduction, parasitology, diseases, behavior, and husbandry management to companion animals. Dogs, cats, and exotic animals will be the species of primary interest. Practical problems of care and management of these species will be solved. Prerequisite: BIOL 1543 or equivalent or consent of instructor. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 1001L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4652 Stocker-Feedlot Cattle Management (Sp) Production and management systems for stocker and feed-lot cattle including practical applications of forage systems, feeding, health management and economics of production of these livestock. The course will include a tour of the stocker and feedlot industry in Arkansas, and surrounding areas. Pre- or Corequisite: ANSC 1041 or ANSC 1051 and CHEM2613/2611L or CHEM3603/3601L and ANSC 1001L and ANSC 2252L and ANSC 2781 and COMM 1313 and BIOL 2013 and BIOL 2011L.

ANSC4652 Cow-Calf Management (Fa) Systems of cow-calf management including the practical application of the principles of
Drill component. Pre- or Corequisite: CHEM 3813. Prerequisite: POSC/ANSC 3032 or POSC/ANSC 3042 or PSYC 2003 or BIOL 2213 or BIOL 2443 or BIOL 2533.

ANSC500V Special Problems (Sp, Su, Fa) (1-6) Work in special problems of animal industry. May be repeated for up to 6 hours of degree credit.

ANSC5013 Domestic Animal Energetics (Odd years, Sp) Physical, physiological and biochemical aspects of energy metabolism of domestic animals and their applications to livestock production. Lecture 3 hours per week. Prerequisite: Graduate standing.

ANSC510V Special Topics in Animal Sciences (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in animal sciences. Prerequisite: Graduate standing. May be repeated for credit.

ANSC5123 Advanced Animal Genetics (Even years, Fa) Specialized study of animal genetics. Lecture 3 hours per week. Prerequisite: ANSC 3123. (Same as POSC 5123)

ANSC5133 Quantitative Inheritance (Odd years, Sp) Advanced study of the genetic basis of variation and the genetic control of quantitative traits in populations. Lecture 3 hours per week. Prerequisite: ANSC 3133.

ANSC5143 Biochemical Nutrition (Even years, Fa) Interrelationship of nutrition and physiological chemistry; structure and metabolism of physiological significant carbohydrates, lipids, and proteins; integration of metabolism with provision of tissue fuels; specie differences in regulatory control of tissue and whole body metabolism of nutrients. Prerequisite: CHEM 3813. (Same as POSC 5143)

ANSC5152 Protein and Amino Acid Nutrition (Even years, Sp) Students will be introduced to the basic processes of protein digestion, amino acid absorption, transport, metabolism, and utilization along with how biochemical function of proteins and their dynamic state affect nutritional status for animals and man. Prerequisite: CHEM 3813. (Same as POSC 5152)

ANSC5253 Advanced Livestock Production (Irregular) Comprehensive review of recent advances in research relative to the various phases of livestock production. Prerequisite: ANSC 4252 (or ANSC 4263) and ANSC 3133 (or ANSC 3143).

ANSC5743L Advanced Analytical Methods in Animal Sciences Laboratory (Fa) Introduction into theory and application of current advanced analytical techniques used in animal research. Two 3-hour laboratory periods per week. (Same as POSC 5743L)

ANSC5853 Advanced Meats Technology (Even years, Sp) An intensive study of processed meats, relating the science, technology, and quality of further processed meat and poultry products. Product development, sensory and chemical analysis, microbiology, nutritional aspects, and product labeling are covered. Prerequisite: POSC 4314 or ANSC 3613.

ANSC5901 Seminar (Fa) Critical review of the current scientific literature pertaining to the field of animal science. Oral reports. Lecture 1 hour per week. Prerequisite: Senior standing.

ANSC5923 Brain & Behavior (Fa) Course covers cellular through neural systems, major brain functions and comparative neuroanatomy between mammals and birds. Specific topics include coverage of ion channels, membrane potentials, action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory systems and the autonomic nervous system. Lecture 3 hours; Neuroscience Journal Club 1 hour per week (for first 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042, or PSYC 2003, or BIOL 2213, or BIOL 2443, or BIOL 2533.

ANSC5932 Cardiovascular Physiology of Domestic Animals (Fa) Cardiovascular physiology, including mechanisms of heart function and excitation, and blood vessel mechanisms associated with the circulatory system in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042. (Same as POSC 5932)

ANSC5942 Endocrine Physiology of Domestic Animals (Fa) Endocrine physiology, including mechanisms of hormone secretion, function, and regulation. Mechanisms associated with the endocrine system will be discussed for domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (or first 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042. (Same as POSC 5942)

ANSC5952 Respiratory Physiology of Domestic Animals (Sp) Respiratory physiology, including mechanisms of lung function and gas exchange. Mechanisms associated with the interaction of the respiratory system with other bodily systems in domestic animals and poultry will be discussed. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042. (Same as POSC 5952)

ANSC5962 Gastrointestinal/Digestive Physiology of Domestic Animals (Fa) Gastrointestinal and hepatic physiology, including mechanisms of digestion, absorption of nutrients with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042. (Same as POSC 5962)

ANSC5972 Renal Physiology (Sp) Renal physiology, including mechanisms of renal clearance with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: POSC/ANSC 3032 and POSC/ANSC 3042. (Same as POSC 5972)

ANSC600V Master's Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

ANSC6143 Minerals in Animal Nutrition (Odd years, Sp) Mineral nutrients, their sources and functions, as related to nutrition of domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3143 or POSC 4343.

ANSC6243 Ruminant Nutrition (Odd years, Fa) Anatomy and physiology of the rumen. The nutrient requirements of microbial organisms and the relation of microbial digestion in the rumen to the nutrition of cattle, sheep and other ruminants. Lecture 3 hours per week. Prerequisite: Graduate standing.

ANSC6253 Forage-Ruminant Relations (Odd years, Sp) Advanced chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake and digestion, and techniques of measuring forage utilization and systems analysis at the plant-animal interface. Lecture 3 hours per week. Prerequisite: ANSC 3143 and CSES 3113. (Same as CSES 6253)
ANTH6343 Reproduction in Domestic Animals (Even years, Sp) Comprehensive review of current theory of reproductive function in domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3143 (or POSC 4343) and CHEM 3813. (Same as POSC 6343)

ANTH6833 Vitamin Nutrition in Domestic Animals (Even years, Sp) The vitamins required by domestic animals with emphasis upon their role in animal nutrition, physiological functions, and consequences of failure to meet the requirement of the animal. Lecture 3 hours per week. Prerequisite: ANSC 3143 (or POSC 4343) and CHEM 3813. (Same as POSC 6833)

ANTH2013 Introduction to Biological Anthropology (Sp, Su, Fa) Laboratory exercises illustrating concepts of biological anthropology. Corequisite: ANTH 1013. (Same as ANTH 2013)

ANTH2011L Honors Introduction to Biological Anthropology Laboratory (Fa) Laboratory exercises illustrating concepts of biological anthropology. Corequisite: ANTH 1013.

ANTH2013 Honors Introduction to Biological Anthropology (Sp, Su) An introduction to the field of physical anthropology using human evolution as a unifying concept. Areas include human genetics, race, speciation, primate evolution, and human variation and adaptation. Corequisite: ANTH 2011L.

ANTH2013H Honors Introduction to Biological Anthropology (Fa) An introduction to the field of physical anthropology using human evolution as a unifying concept. Areas include human genetics, race, speciation, primate evolution, and human variation and adaptation. Corequisite: ANTH 2011M.

ANTH2023 Introduction to Cultural Anthropology (Sp, Su, Fa) Introduction to the nature of culture and its influence on human behavior and personality: comparative study of custom, social organization, and processes of change and integration of culture.

ANTH2023H Honors Introduction to Cultural Anthropology (Sp, Fa) Introduction to the nature of culture and its influence on human behavior and personality: comparative study of custom, social organization, and processes of change and integration of culture.

ANTH2013 Introduction to Latin American Studies (Irregular) This course provides an interdisciplinary introduction to Latin America. Drawing on Latin American literature, history, sociology, and political science, the course examines the broad forces that have shaped the region. (Same as LAST 2013)

ANTH3003 World Prehistory (Irregular) Survey of the prehistoric and early historic cultures of the Americas, Asia, and Africa.

ANTH3021L Archeology Laboratory (Sp, Fa) Laboratory exercises illustrating concepts of archeology. Corequisite: ANTH 3023.

ANTH3023 Approaches to Archeology (Sp, Fa) Study of the field of archeology including method, theory, analysis and interpretation with substantive worldwide examples. Corequisite: ANTH 3021L.

ANTH3033 Egyptology (Irregular) Explores multiple aspects of Ancient Egyptian civilization including chronology, art, religion, literature and daily life. Prerequisite: Junior standing.

ANTH3123 The Anthropology of Religion (Sp) An exploration of rituals, symbols, and rules that shape religious life. Religion is viewed broadly, considering activities that invoke powers beyond the reach of ordinary senses. Examining a variety of cultures, we explore what people say and do as they participate in activities such as magic, healing, pilgrimage, and contemporary religious movements.

ANTH3143 Language and Expressive Culture (Irregular) This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression. (Same as COMM 3143, ENGL 3143)

ANTH3163 Male and Female: A Cultural and Biological Overview (Fa) A comparative study of male and female roles in culture in relation to human biology and socialization.

ANTH3173 Introduction to Linguistics (Irregular) Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, the history of linguistic scholarship. Prerequisite: Junior standing. (Same as COMM 3173, ENGL 3173, WLLC 3173)

ANTH3213 Indians of North America (Irregular) Study of the Indians of North America and Mexico emphasizing lifeways at early White contact and subsequent acculturation.

ANTH3253 Cultures of the South (Sp) Survey of the diverse ethnic and racial groups of the American South with special emphasis on social and cultural traits related to contemporary developments. (Same as PLSC 3273, SOCI 3253)

ANTH3263 Indians of Arkansas and the South (Odd years, Sp) Study of the traditional lifeways and prehistoric backgrounds of Indians living in the Southern United States, including Arkansas.

ANTH3421L Human Osteology Laboratory (Sp) Laboratory exercises illustrating concepts of human osteology. Corequisite: ANTH 3423.

ANTH3423 Human Osteology (Sp) Study of the human skeleton, identification of bones, allometric growth, sexual dimorphism, osteological genetic inheritance and environmental stresses. Lectures and demonstration. Corequisite: ANTH 3421L.

ANTH3423 Human Evolution (Fa) A study of hominid evolution from origin to the present, including trends in comparative primate evolution and functional development of human form as a result of cultural and biological interaction.

ANTH3443 Criminalistics: Forensic Sciences (Irregular) Introduction to forensics focused on the scientific analysis of physical and biological evidence encountered in criminal investigations. Chemical, microscopic, biological, and observational techniques employed in the analysis of material evidence are described, discussed, and illustrated within an investigative framework. Topics include inorganic remains, fiber, tissue, human identification, fingerprints, tools, and weapons.

ANTH3473 North American Prehistory (Irregular) Survey of the aboriginal prehistory of the North American Continent north of Mexico.

ANTH3503 Power and Popular Protest in Latin America (Irregular) This course focuses on the historical formation of Latin America by examining
conflicts between the region’s rich and poor. It includes both an historical perspective on the formation of ethnic, gender, and class relations in Latin America, and a discussion of contemporary social problems.

ANTH3523 Gender and Politics in Latin America (Irregular) This course examines the ways in which political struggles surrounding land, labor, and the environment have been shaped by gender relations in Latin America. Why and how do peasant-workers engage their political worlds and how are such struggles shaped by gender?

ANTH3533 Medical Anthropology (Irregular) Survey of the interrelationship of human biology, culture and environment as reflected in disease experience from an evolutionary and cross cultural perspective. Special emphasis on stress.

ANTH3543 Geographic Information Science (Sp) Computer assisted analysis and display of geographic resource data. Course develops the theory behind spatial data analysis techniques, and reinforces the theory with exercises that demonstrate its practical applications. Prior experience with computers and/or completion of GEOG 4523 (Computer Mapping) is useful but not a prerequisite. (Same as GEOS 3543)

ANTH3903 Topics in Anthropology (Irregular) Covers a special topic or issue. May be repeated for up to 12 hours of degree credit.

ANTH3923H Honors Colloquium (Irregular) Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in anthropology). May be repeated for credit.

ANTH399VH Honors Thesis (Sp, Su, Fa) (1-6) Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

ANTH4013 History of Anthropological Thought (Fa) Detailed consideration of anthropological theory through study of its historical development. The research paper in this course fulfills the Fulbright College research paper requirement for anthropology majors.

ANTH4033 Popular Culture (Irregular) Study of national and international varieties of popular culture, including music, dance, fashion, and the media. Emphasis will be given to both ethnographic approaches, which focus on the investigation of production and consumption of cultural forms and to cultural studies approaches, which see culture as a terrain of struggle.

ANTH4063 Women in Africa (Irregular) Diversity of women’s life experiences throughout sub-Saharan Africa will be examined. The class will investigate a range of topics, from marriage and motherhood to prostitution and popular culture. A historical dimension will be present throughout the course, and perspectives from literature and film will also be incorporated. (Same as AAST 4063)

ANTH4083 African Popular Culture (Irregular) This class explores popular cultural expression across Africa. Topics range from hip hop and film, to second-hand clothing fashions and the media. We will consider how popular culture, while often inspired by global trends, is rooted in local circumstances and often reflects attempts to grapple with important issues.

ANTH4093 The Archeology of Death (Irregular) Study of the analysis and interpretation of archeological mortuary remains and sites. Key archeological and anthropological sources that have influenced major theoretical developments are reviewed.

ANTH4123 Ancient Middle East (Irregular) The archeology of the ancient Middle East with emphasis upon the interaction of ecology, technology and social structure as it pertains to domestication and urbanization.

ANTH4133 Settlement Archaeology (Irregular) Focuses on the historical development of settlement archeology, the methods of site survey and discovery within regions, ecological and social theories that underlie patterns of human land use and distribution, methods of site location analysis, and descriptive and predictive site location modeling. Prerequisite: ANTH 3023.

ANTH4143 Ecological Anthropology (Irregular) Anthropological perspectives on the study of relationships among human populations and their ecosystems.

ANTH4243 Archeology of the Midsouth (Irregular) Survey of prehistoric and protohistoric cultures of the lower Mississippi Valley and adjacent regions. Prerequisite: Junior standing.

ANTH4256 Archeological Field Session (Su) Practical field and laboratory experiences in archeological research. May be repeated for up to 12 hours of degree credit.

ANTH4263 Identity and Culture in the U.S.-Mexico Borderlands (Irregular) An exploration of the interplay between Latino/a, Mexican, Anglo, and Native American identities and cultures along the U.S.-Mexico border. Course examines identity formation, hybridity, social tension, marginalization, race and gender, from an anthropological perspective, paying special attention to the border as theoretical construct as well as material reality.

ANTH4353 Laboratory Methods in Archeology (Irregular) Theory and practice of describing, analyzing, and reporting upon archeological materials.

ANTH4363 Museums, Material Culture, and Popular Imagination (Fa) Museums as ideological sites and thus as sites of potential contestation produce cultural and moral systems that legitimate existing social orders. This course will focus on strategies of representation and the continuous process of negotiating social and cultural hierarchies with and through objects that are displayed.

ANTH4443 Cultural Resource Management I (Sp) Concentrated discussion of management problems relative to cultural resources, including review and interpretation of relevant federal legislation, research vs. planning needs, public involvement and sponsor planning, and assessment of resources relative to scientific needs. No field training involved; discussion will deal only with administrative, legal and scientific management problems. May be repeated for credit.

ANTH448V Individual Study of Anthropology (Sp, Su, Fa) (1-6) Reading course for advanced students with special interests in anthropology. May be repeated for up to 6 hours of degree credit.

ANTH4513 African Religions: Gods, Witches, Ancestors (Irregular) An exploration of African religions from a variety of anthropological perspectives, exploring how religious experience is perceived and interpreted by adherents, highlighting the way in which individual and group identities are constructed, maintained and contested within religious contexts. Readings reflect the vast diversity of religious life in Africa.

ANTH4523 Dental Science (Fa) Introduction to the study of the human dentition including its anatomy, morphology, growth and development, and histology.
ANTH4533 Middle East Cultures (Sp) Study of the peoples and cultures of the Middle East; ecology, ethnicity, economics, social organizations, gender, politics, religion, and patterns of social change. May be repeated for up to 9 hours of degree credit.

ANTH4553 Introduction to Raster GIS (Fa) Theory, data structures, algorithms, and techniques behind raster-based geographical information systems. Through laboratory exercises and lectures multidisciplinary applications are examined in database creation, remotely sensed data handling, elevation models, and resource models using Boolean, map algebra, and other methods. (Same as GEOS 4553)

ANTH4563 Vector GIS (Sp) Introduction to geographic information systems (GIS) applications in marketing, transportation, real estate, demographics, urban and regional planning, and related areas. Lectures focus on development of principles, paralleled by workstation-based laboratory exercises using Arc-node based software and relational data bases. (Same as GEOS 4583)

ANTH4583 Peoples and Cultures of Sub-Saharan Africa (Fa) An exploration of the people and places of Africa from a variety of anthropological perspectives. Classic and contemporary works will be studied in order to underscore the unity and diversity of African cultures, as well as the importance African societies have played in helping us understand culture/society throughout the world.

ANTH4593 Introduction to Global Positioning Systems (Sp) Introduction to navigation, georeferencing, and digital data collection using GPS receivers, data loggers, and laser technology for natural science and resource management. Components of NavStar Global Positioning system are used in integration of digital information into various GIS platforms with emphasis on practical applications. (Same as GEOS 4593)

ANTH4603 Landscape Archaeology (Fa) This course provides an introduction to the methods and theories of landscape archaeology. Topics include archaeological survey techniques, environmental and social processes recorded in the archaeological landscape, and analysis of ancient settlement and land use data to reveal changes in population, resource utilization, and environmental relationships.

ANTH4613 Primate Adaptation and Evolution (Sp) Introduction to the biology of the order of Primates. This course considers the comparative anatomy, behavioral ecology and paleontology of our nearest living relatives. Prerequisite: ANTH 1013 (or BIOL 1543 and BIOL 1541L). (Same as BIOL 4613)

ANTH4633 Archeological Prospecting & Remote Sensing (Irregular) Ground-based geophysical, aerial, and other remote sensing methods are examined for detecting, mapping, and understanding archeological and other deposits. These methods include magnetometry, resistivity, conductivity, radar, aerial photography, thermography, and multispectral scanning. Requires computer skills, field trips, and use of instruments.

ANTH4653 Advanced Raster GIS (Irregular) Advanced raster topics are examined beginning with a theoretical and methodological review of Tomlin’s cartographic modeling principles. Topics vary and include Fourier methods, image processing, kriging, spatial statistics, principal components, fuzzy and regression modeling, and multi-criteria decision models. Several raster GIS programs are examined with links to statistical analysis software. Prerequisite: ANTH 4553 or GEOG 4553. (Same as ENDY 5043,GEOS 4653)

ANTH4813 Ethnographic Approaches to the Past (Irregular) Review of the uses of ethnographic data in the reconstruction and interpretation of past cultures and cultural processes, with particular emphasis on the relationships between modern theories of culture and archeological interpretation.

ANTH4863 Quantitative Anthropology (Irregular) Introductory statistics course for anthropology students examines probability theory, nature of anthropological data, data graphics, descriptive statistics, probability distributions, test for means and variances, categorical and rank methods, ANOVA, correlation and regression. Lectures focus on theory methods; utilize anthropological data and a statistical software laboratory. (Same as GEOS 4863)

ANTH4903 Seminar in Anthropology (Irregular) Research, discussion, and projects focusing on a variety of topics. May be repeated for up to 12 hours of degree credit.

ANTH4913 Topics of the Middle East (Irregular) Covers a special topic or issue. May be repeated for up to 9 hours of degree credit.

ANTH500V Advanced Problems in Anthropology (Sp, Su, Fa) (1-18) Individual research at graduate level on clearly defined problems or problem areas. May be repeated for up to 18 hours of degree credit.

ANTH5043 Advanced Vector Geographic Information Systems (Irregular) Advanced vector operations and analysis. Topics will include topological analysis, network analysis, geocoding, conflation, implications of source and product map scale, map generation, error mapping, and cartographic production. Prerequisite: (ANTH 4563 or GEOS 4583) or equivalent. (Same as GEOS 5033)

ANTH5053 Quaternary Environments (Fa) An interdisciplinary study of the Quaternary Period including dating methods, deposits, soils, climates, tectons, and human adaptation. Lecture 2 hours, laboratory 2 hours per week. (Same as ENDY 5053,GEOS 5053)

ANTH5103 Applications of Cultural Method and Theory (Fa) Review of the nature and history of cultural anthropology; recent theories and practical implications and applications of various methods of acquiring, analyzing and interpreting cultural anthropological data.

ANTH5113 Anthropology of the City (Irregular) Examines cities as both products of culture, and sites where culture is made and received. Explores the implications of several pivotal urban and cultural trends and the way in which representations of the city have informed dominant ideas about city space, function, and feel.

ANTH5153 Topics in Anthropology (Irregular) Graduate level seminar with varied emphasis on topics relating to cultural anthropology. May be repeated for credit.

ANTH5203 Applications of Archeological Method and Theory (Fa) Review of the nature and history of archeology; recent theories and practical implications and applications of various methods of acquiring, analyzing, and interpreting archeological data.

ANTH5263 Indians of Arkansas and the South (Odd years, Sp) Study of the traditional lifeways and prehistoric backgrounds of Indians living in the southern United States, including Arkansas.

ANTH5303 Applications of Method and Theory in Biological Anthropology (Irregular) Review of the nature and history of biological anthropology; recent theories and the practical implications and applications of various methods of acquiring, analyzing, and interpreting data.
ANTH535V Topics in Physical Anthropology (Irregular) (1-6) Graduate level seminar with varied emphasis on topics relating to physical anthropology. May be repeated for credit.

ANTH5413 Bioarcheology Seminar (Odd years, Sp) Intensive coverage of bioarcheological method and theory with the context of both academic and cultural resources management research.

ANTH5423 Human Evolutionary Anatomy (Irregular) Paleobiologists reconstruct past lifeways and systematic relationships of our ancestors using comparative studies of bony morphology and associated soft tissues. This course surveys methods and theories used to infer function and phylogeny, and details relevant aspects of the anatomy of humans, living great apes, and fossil human ancestors. Prerequisite: ANTH 1013 and BIOL 1543. (Same as BIOL 5423)

ANTH5443 Cultural Resource Management I (Irregular) Concentrated discussion of management problems relative to cultural resources, including review and interpretation of relevant federal legislation, research vs. planning needs, public involvement and sponsor planning, and assessment of resources relative to scientific needs. No field training involved; discussion will deal only with administrative, legal, and scientific management problems.

ANTH5473 Descriptive Linguistics (Fa) A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages. (Same as COMM 5463, ENGL 5463, WLLC 5463)

ANTH561V Field Research in Archeology (Irregular) (1-6) Directed graduate level archeological fieldwork. May be repeated for up to 6 hours of degree credit.

ANTH600V Master’s Thesis (Sp, Su, Fa) (1-6)

ANTH6033 Society and Environment (Sp) This course examines the complex interrelationships between human societies and the natural environment. Drawing on diverse and interdisciplinary perspectives in archaeology, ethnography, history, geography, and palaeo-environmental studies, readings and discussion will explore the co-production of social and environmental systems over time. May be repeated for credit. (Same as ENDY 6033)

ANTH610V Internship (Sp, Su, Fa) (1-18) May be repeated for up to 18 hours of degree credit.

ANTH6181 Seminar: Cultural Anthropology (Irregular) Variable topics in Anthropology will be explored in depth. May be repeated for up to 9 hours of degree credit.

ANTH6823 Seminar: Archeology (Irregular) Various topics in Archeology will be explored in depth. May be repeated for up to 9 hours of degree credit.

ANTH6833 Seminar: Biological Anthropology (Irregular) Various topics in Biological Anthropology will be explored in depth. May be repeated for up to 9 hours of degree credit.

ANTH700V Doctoral Dissertation (Sp, Fa) (1-18)

Arabic (ARAB)
ARCH1110 Leadership By Design I (Fa) Introduces time management, study strategies, promotes solutions for maintaining personal health, and develops communication and leadership skills intended to benefit education, career, and the community.

ARCH1120 Leadership by Design II (Sp) Introduces time management, study strategies, promotes solutions for maintaining personal health, and develops communication and leadership skills intended to benefit education, career, and the community. Continuation of ARCH 1110. Prerequisite: ARCH 1010.

ARCH2121 Design Thinking I: Foundations in Technology (Su, Fa) This course will raise pertinent questions about the role of architectural technology in design through studying the important theories about technology from Vitruvius to contemporary practice and understanding how they have been manifested in built form.

ARCH2122 Design Thinking II: Foundations in History (Sp, Su) Theoretical, formal, and constructive principles and their impact in the design disciplines, modernism and after. Introduction to the intellectual and philosophical foundations of design theory. Lecture 1 hour per week.

ARCH2016 Architectural Design III (Fa) Introduction of formal principles and strategies used in space making, focusing on the development of plans and sections. Precedents and the understanding of them through analysis and syntheses are used as a means of examining the past and the present while providing a framework from which personal design sensibilities can evolve. Corequisite: ARCH 2114 and ARCH 2233. Prerequisite: ARCH 1024 and ARCH 1222.

ARCH2026 Architectural Design IV (Sp) An elaboration of space-making, addressing three-dimensional aspects of form-making, including the influence of structural systems, articulation of the vertical section, and exterior expression; the role of site as a generator of form; and the overarching importance of technology, including the materiality of space, structure, and light. Corequisite: ARCH 2124 and ARCH 2243. Prerequisite: ARCH 2114 and ARCH 2233.

ARCH2113 Architectural Structures I (Fa) Introduction to statics and strength of materials. Building loads are examined as to their effect on the elements of architectural projects. Simple post and beam structures are the focus of this course. Bending, axial, and shear stress are examined in beams and columns. Materials studied include wood, steel, and concrete. Corequisite: ARCH 2016 and ARCH 2132. Prerequisite: ARCH 1212.

ARCH2113H Honors Architectural Structures I (Fa) Introduction to statics and strength of materials. Building loads are examined as to their effect on the elements of architectural projects. Simple post and beam structures are the focus of this course. Bending, axial, and shear stress are examined in beams and columns. Materials studied include wood, steel, and concrete. Corequisite: ARCH 2016 and ARCH 2132. Prerequisite: ARCH 1212.

ARCH2123 Architectural Structures II (Sp) Introduction to the basic theories of structures, structural behavior, and the design of simple structural systems capable of resisting gravity and lateral forces. Provides a basic understanding of structural behavior, organization of framing systems and location of lateral force resisting elements for building structures and other technical systems. Corequisite: ARCH 2113. Prerequisite: ARCH 2026.

ARCH2132 Environmental Technology I (Fa) Introduces theories and concepts of the building thermal, luminous and sonic environments with focus on solar geometry-shading, climate-thermal stresses, natural ventilation, daylight, sound isolation and noise control. The application of these systems to support the design of an environmentally responsive building and its enclosure is addressed. Corequisite: ARCH 2116 and ARCH 2113. Prerequisite: ARCH 1212.

ARCH2132H Honors Environmental Technology I (Fa) Introduces theories and concepts of the building thermal, luminous and sonic environments with focus on solar geometry-shading, climate-thermal stresses, natural ventilation, daylight, sound isolation and noise control. The application of these systems to support the design of an environmentally responsive building and its enclosure is addressed. Corequisite: ARCH 2116 and ARCH 2113. Prerequisite: ARCH 1212.

ARCH2233 History of Architecture I (Fa) Critical study and analysis of world architecture from ancient times through the Middle Ages, comprising the ancient Americas, Asia, Mesopotamia, and Egypt; Classical, Byzantine, and Islamic architecture and vernacular design; and the early Christian, Romanesque, and Gothic periods.

ARCH2233H Honors History of Architecture I (Fa) Critical study and analysis of world architecture from ancient times through the Middle Ages, comprising the ancient Americas, Asia, Mesopotamia, and Egypt; Classical, Byzantine, and Islamic architecture and vernacular design; and the early Christian, Romanesque, and Gothic periods. Corequisite: Drill component. Prerequisite: Honors candidacy.

ARCH2243 History of Architecture II (Sp) Critical study and analysis of world architecture from the fifteenth to the mid-nineteenth centuries. Encompasses early modern Europe (Renaissance, Baroque, and Neoclassical) as well as two or more of the following: colonial New Spain, early modern Japan, and/or early modern Islamic empires in Africa, the Middle East, and Asia. Vernacular American building is surveyed as well as architecture in the nineteenth-century, including Beaux-Arts design and the introduction of industrial materials. Prerequisite for architecture majors only: ARCH 2233.

ARCH2243H Honors History of Architecture II (Sp) Critical study and analysis of world architecture from the fifteenth to the mid-nineteenth centuries. Encompasses early modern Europe (Renaissance, Baroque, and Neoclassical) as well as two or more of the following: colonial New Spain, early modern Japan, and/or early modern Islamic empires in Africa, the Middle East, and Asia. Vernacular American building is surveyed as well as architecture in the nineteenth-century, including Beaux-Arts design and the introduction of industrial materials. Corequisite: Drill component. Prerequisite for architecture majors only: ARCH 2233 and honors candidacy.

ARCH2993 Art and Culture in Italy (Sp, Fa) The evolution of culture and aesthetics and their immediate relationship with the creation of Italy’s masterpieces in art and architecture. Includes site visits and lectures. Offered in the Rome study abroad semester.

ARCH3016 Architectural Design V (Fa) Emphasis on issues of design process, exploration of internal and external determinants of form and the integration of appropriate technologies in design solutions. Corequisite: ARCH 3134 and ARCH 4433. Prerequisite: ARCH 2026 and ARCH 2124 and ARCH 2243.

ARCH3026 Architectural Design VI (Sp) Studio-based analysis and design of structural and enclosure systems for buildings with particular emphasis on systems interface and application within the context of
design exercises. Investigations of the appropriate use of materials and assemblies for varied programmatic and environmental criteria. Twelve hours of studio each week. Corequisite: ARCH 4523. Prerequisite: ARCH 3016 and ARCH 3134.

ARCH303V Special Projects (Irregular) (1-6) Individual or group investigation in research, visual communication, history, or design concerning special interests of student or faculty. May be repeated for credit.

ARCH303VH Honors Special Projects (Irregular) (1-6) Individual or group investigation in research, visual communication, history, or design concerning special interests of student or faculty. Prerequisite: Honors candidacy. May be repeated for credit.

ARCH3134 Building Materials and Assemblies (Fa) Focuses in depth on building materials: their history, properties, configuration and use - both traditional and contemporary, in the service of architectural construction; their impact on the expression and form of both the structure and envelope of buildings and spaces. Corequisite: ARCH 3016. Prerequisite: ARCH 2132, ARCH 2113 and ARCH 2123.

ARCH3743 Furniture Design (Irregular) Design concepts and techniques to acquaint the student with the design of furniture; analysis of function, development of design and construction of small pieces of furniture.

ARCH4016 Comprehensive Studio (Fa) Emphasis on issues of typology, context and technological suitability as sources of theoretical and developmental responses. Prerequisite: ARCH 3026 or ARCH 4126.

ARCH4023 Advanced Architectural Studies (Sp, Fa) Advanced seminars in subjects to special interest to students and faculty. May be repeated for credit.

ARCH4023H Honors Advanced Architectural Studies (Sp, Fa) Advanced seminars in subjects to special interest to students and faculty. Prerequisite: Honors candidacy. May be repeated for credit.

ARCH4026 Comprehensive Studio (Sp) Continuation of Architectural Design VII. Prerequisite: ARCH 4016 or ARCH 4116 or ARCH 4126.

ARCH4116 Architectural Design - Rome (Sp, Fa) Investigation of complex design problems in the context of the city of Rome, utilizing advanced issues in architectural design and planning. Prerequisite: ARCH 3026 or ARCH 4016.

ARCH4126 Architectural Design Latin America (Su) Introduces a complex social and physical urban condition through a process of formal analysis and design executed in a designated country augmented by an intense graphic investigation of urban form encountered through related field trips to the distinct cultural and geographic regions. Prerequisite: ARCH 3026 or ARCH 4016 or ARCH 4026.

ARCH4154 Environmental Technology II and Building Systems (Sp, Fa) Theories and concepts of a variety of building environmental controls featuring mechanical systems with related duct layout and controls, indoor air quality, electric lighting, fire safety, transportation, communication, water and waste. Integration of these systems into the overall building design and how systems selection affects building design and energy consumption. Corequisite: ARCH 4016 or ARCH 4026. Prerequisite: ARCH 3134.

ARCH4154H Honors Environmental Technology II and Building Systems (Sp, Fa) Theories and concepts of a variety of building environmental controls featuring mechanical systems with related duct layout and controls, indoor air quality, electric lighting, fire safety, transportation, communication, water and waste. Integration of these systems into the overall building design and how systems selection affects building design and energy consumption. Corequisite: ARCH 4016 or ARCH 4026. Prerequisite: ARCH 3134.

ARCH4433 History of Architecture III (Fa) Critical study and analysis of the history and theories of modern architecture from the mid-nineteenth century to the present. Prerequisite: ARCH 2233 and ARCH 2243 or IDES 2883.

ARCH4433H Honors History of Architecture III (Fa) Critical study and analysis of the history and theories of modern architecture from the mid-nineteenth century to the present. Prerequisite: ARCH 2233, ARCH 2243 and honors candidacy. Corequisite: Drill component.

ARCH4483 Architecture of the Americas (Irregular) Study of the development of architecture in the Americas from the Pre-Columbian cultures to the present day. Lecture and slides 3 hours per week.

ARCH4483H Honors Architecture of the Americas (Irregular) Study of the development of architecture in the Americas from the Pre-Columbian cultures to the present day. Lecture and slides 3 hours per week. Prerequisite: Honors candidacy.

ARCH4523 Architectural Theory (Sp) Introduction to architectural theories and their relationship to modern historiography. Case studies are employed for the critical evaluation of significant texts and the discernment of concepts embedded in textual structures. Reading theory through established historical categories establishes critical insight to the original deployment, negation and resurfacing of architectural theories. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433.

ARCH4553 Modern Architecture in Mexico (Su) Overview of the emergence, growth and trends that define the ongoing evolution of modern architecture in Mexico from the first decades of the 20th century to contemporary practice. Offered in the Mexico study abroad semester.

ARCH4553H Honors Modern Architecture in Mexico (Su) Overview of the emergence, growth and trends that define the ongoing evolution of modern architecture in Mexico from the first decades of the 20th century to contemporary practice. Offered in the Mexico study abroad semester.

ARCH4610 Architecture Cooperative Education I (Irregular) A practicum which introduces and engages the student in the practice and application of the profession. Prerequisite: completion of all third year program requirements, 2.5 minimum GPA and permission of the faculty.

ARCH4653 Architecture of the City (Sp, Fa) Analysis of Rome’s urban form and historical and theoretical information in support of the students’ experience. Includes site visits and lectures. Offered in the Rome study abroad semester.

ARCH4723H Honors Architectural Research Methods (Fa) Investigation into the practical, theoretical, and methodological strategies necessary for embarking upon architectural inquiry and discourse at a sophisticated level, for instance, in the form of a year-long thesis or independent project. Practical issues of method, such as research skills, literature review, and argument analysis are examined. The classic range of tools for interpreting architecture are surveyed from single-cause explanations (e.g., formalism) to more recent multi-causal theories (e.g., Semiotics, Deconstruction, Post-colonial theory, etc.) for architectural design. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433 and honors candidacy.
ARCH4843 Medieval Architecture (Irregular) This course traces the history of architecture in Western Europe from c. 300 - 1400. Sites studied include: the early Christian basilicas in Rome, the towered churches of Carolingian emperors, synagogues and mosques of Al-Andalus (Spain), Romanesque monasteries, and Gothic cathedrals. Prerequisite: ARCH 4433. (Same as ARHS 4743)

ARCH4853 Renaissance and Baroque Architecture (Irregular) Study of Renaissance and Baroque architecture in Europe and the New World from 1400 to 1700. With reference to an array of texts, drawings, and the edifices themselves, this course charts the evolution of a commanding Western architectural tradition. Renaissance and Baroque -- with close attention to the social, humanistic, and religious contexts that produced it. Prerequisite: ARCH 4433. (Same as ARHS 4753)

ARCH5016 Option Studio I (Sp) Project development dependent upon the synthesis of knowledge and application of critical thinking addressing architectural issues at multiple scales. Prerequisite: ARCH 4016 or ARCH 4026 or ARCH 4116 or ARCH 4126 or ARCH 4116 or ARCH 4126.

ARCH5016H Honors Thesis Project I (Sp, Fa) Degree project development dependent upon the synthesis of knowledge and application of critical thinking addressing architectural issues at multiple scales. Prerequisite: Honors candidacy.

ARCH5026 Option Studio II (Su) Project resolution including demonstrated skill in generating design ideas supported by clear understanding of issues resulting in comprehensive development and presentation of architectural issues at multiple scales. Prerequisite: ARCH 5016.

ARCH5026H Honors Thesis Project II (Sp, Fa) Degree project resolution including demonstrated skill in generating design ideas supported by clear understanding of issues resulting in comprehensive development and presentation of architectural issues at multiple scales. Prerequisite: Honors candidacy.

ARCH5253 Architectural Structures Seminar (Irregular) Advanced discussion, investigation, design, and analysis of structural systems, forms, and materials as determinants of architectural design. May be repeated for up to 6 hours of degree credit.

ARCH5314 Architectural Professional Practice (Fa) Study of role and responsibility of the architect, owner, and contractor relationships; professional ethics; organization of the architect’s office; contracts and other documents; risk management strategies; and the preparation of the technical specifications and bidding documents of the Project Manual. Prerequisite: ARCH 4026 or ARCH 4116 or ARCH 4126.

ARCH5493 History of Urban Form (Irregular) The city is explored as the primary context for design practice and theory. A few themes, e.g., the struggle between internal and external determinants of form, will frame the examination of exemplary urban projects. Primary focus on Classical through Baroque periods, tracing precedents from these periods into contemporary practice. Prerequisite: ARCH 2233 and ARCH 2243 and ARCH 4433.

ARCH5933 Preservation and Restoration (Irregular) History of the preservation and restoration movement in Europe and the U.S.; its relation to the contemporary urban planning and renewal. Modern economic and administrative techniques of preservation. Participation in history surveys at regional and state levels. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433.
ARHS4763H Honors Seminar in Critical Theory (Sp) Study of critical theory as it relates to problems in modern and contemporary art. Prerequisite: Nine credit hours of ARHS coursework.

ARHS4813 The History of Photography (Irregular) Survey of photography from 1655 to present.

ARHS4823 History of Graphic Design (Irregular) Survey of graphic design history from 1850 to the present. Prerequisite: ARHS 2923.

ARHS4833 Ancient Art (Irregular) Study of selections from the visual arts of Mesopotamia, Egypt, Greece, or Rome. Prerequisite: ARHS 2913.

ARHS4833H Honors Ancient Art (Irregular) Study of selections from the visual arts of Mesopotamia, Egypt, Greece, or Rome. Prerequisite: ARHS 2913.


ARHS4843H Honors Medieval Art (Irregular) Study of Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic styles. Prerequisite: ARHS 2913.

ARHS4853 Italian Renaissance Art (Irregular) Study of Proto-Renaissance, Early, High Renaissance, and Mannerist styles in Italy. Prerequisite: ARHS 2923.

ARHS4853H Honors Italian Renaissance Art (Irregular) Study of Proto-Renaissance, Early, High Renaissance, and Mannerist styles in Italy. Prerequisite: ARHS 2923.

ARHS4863 Northern Renaissance Art (Irregular) Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.

ARHS4863H Honors Northern Renaissance Art (Irregular) Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.

ARHS4873 Baroque Art (Irregular) Study of art styles of the 17th century, primarily in Italy, Spain, France, Flanders, and the Netherlands. Prerequisite: ARHS 2923.

ARHS4873H Honors Baroque Art (Irregular) Study of art styles of the 17th century, primarily in Italy, Spain, France, Flanders, and the Netherlands. Prerequisite: ARHS 2923.

ARHS4883 18th and 19th Century European Art (Irregular) Study of eighteenth- and nineteenth-century art and architecture in Europe. Prerequisite: ARHS 2923.

ARHS4883H Honors 18th and 19th Century European Art (Irregular) Study of eighteenth and nineteenth century art and architecture in Europe. Prerequisite: ARHS 2923.

ARHS4893 20th Century European Art (Irregular) Study of the major styles and movements of the century, including Cubism, Fauvism, German Expressionism, and Surrealism. Prerequisite: ARHS 2923.

ARHS4893H Honors 20th Century European Art (Irregular) Study of the major styles and movements of the century, including Cubism, Fauvism, German Expressionism, and Surrealism. Prerequisite: ARHS 2923.

ARHS4913 American Art to 1860 (Irregular) The visual arts in the United States from Colonial times through 1860. Prerequisite: ARHS 2923.

ARHS4913H Honors American Art to 1860 (Irregular) The visual arts in the United States from Colonial times through 1860. Prerequisite: ARHS 2923.

ARHS4923 American Art 1860-1960 (Irregular) The visual arts in the United States from the onset of the American Civil War through the Cold War Era. Prerequisite: ARHS 2923.

ARHS4923H Honors American Art 1860 - 1960 (Irregular) The visual arts in the United States from the onset of the American Civil War through the Cold War Era. Prerequisite: ARHS 2923.

ARHS4933 Contemporary Art (Fa) Study of styles and major trends in the visual arts since 1960. Prerequisite: ARHS 2923 and ARHS 4923.

ARHS4933H Honors Contemporary Art (Fa) Study of styles and major trends in the visual arts since 1960. Prerequisite: ARHS 2923 and ARHS 4923.

ARHS4943 Seminar in Art Criticism (Fa) Study and problems in the criticism of art forms and styles. Prerequisite: 9 hours of art history.

ARHS4943H Honors Seminar in Art Criticism (Fa) Study and problems in the criticism of art forms and styles. Prerequisite: 9 hours of art history.

ARHS4953 Art Museum Studies (Irregular) A survey of the history and function of the art museum and an introduction to museum work, Investigation of collections and collections management, conservation, exhibitions, education and public programs, museum management, and contemporary issues which effect the museum profession. Prerequisite: ARHS 2913 and ARHS 2923, or graduate Art MFA standing.

ARHS4963 Individual Research in Art History (Sp, Fa) Independent study in specific areas of art history and criticism. Prerequisite: 12 hours of Art History and permission of instructor.

ARHS4963H Honors Individual Research in Art History (Sp, Fa) Independent study in specific areas of art history and criticism. Prerequisite: 12 hours of Art History and permission of instructor.

ARHS4973 Seminar in Art History (Irregular) Special studies of periods and styles of art. Prerequisite: 9 hours of Art History. May be repeated for up to 6 hours of degree credit.

ARHS4983 Special Topics in Art History (Irregular) Subject matter not covered in regularly offered courses, and relating to the history of art before the nineteenth century. May be repeated for different topics. Prerequisite: ARHS 2913 or ARHS 2923. May be repeated for up to 6 hours of degree credit.

ARHS4993 Special Topics in Modern Art (Irregular) Subject matter not covered in regularly offered courses, and relating to the history of art from the nineteenth century to the present. May be repeated for different topics. Prerequisite: ARHS 2923. May be repeated for up to 9 hours of degree credit.

ARHS6933 Graduate Research In Art History (Irregular) Independent study in specific areas of art history and criticism.

ARHS6943 Seminar: Critical Thought in Art (Fa) Explore topics of concern to the studio artist involving underlying concepts and purposes of art as well as models and methods for the analysis of art. Course based on discussions of selected readings, prepared papers and seminar reports.
Prerequisite: graduate standing. May be repeated for up to 3 hours of degree credit.

Arts and Sciences (ARSC)

ARSC1001 Fulbright Perspectives (Fa) Open to incoming freshman and transfer students participating in the university’s First Year Experience. Available for credit only.

ARSC300V Study Abroad (Sp, Su, Fa) (1-18) Open to undergraduate students studying abroad in officially sanctioned programs. May be repeated for up to 24 hours of degree credit.

ARSC310V Cooperative Education (Sp, Su, Fa) (1-4) Required of participants in cooperative education work assignments. Available for credit only. May be repeated for up to 4 hours of degree credit.

ARSC500V Study Abroad (Sp, Su, Fa) (1-6) Open to graduate students studying abroad in officially sanctioned programs. May be repeated for up to 24 hours of degree credit.

Art (ARTS)

ARTS1013 Drawing Fundamentals I (Sp, Fa) Problems dealing with materials and techniques of drawing, including basic concepts of line, perspective, and value.

ARTS1313 Two-Dimensional Design (Sp, Fa) Studio problems in the use of line, shape, texture, value, and color and their relationships.

ARTS1323 Three-Dimensional Design (Sp, Fa) Studio problems with the elements of three-dimensional design: structure, space, form, surface, and their relationship.

ARTS2003 Drawing Fundamentals II (Sp) Continuation of Drawing Fundamentals. Prerequisite: ARTS 1013.

ARTS2013 Figure Drawing I (Sp, Fa) Continuation of drawing fundamentals with emphasis upon human figure studies. Prerequisite: ARTS 1013.

ARTS2313 Computer Applications in Art (Sp, Fa) Introduction to digital imaging in the visual arts. Beginning instruction in digital image creation, manipulation and processing. Introduction to input and output peripherals, computer graphic software programs and work in the digital visual arts. Prerequisite: ARTS 1313.

ARTS3023 Drawing III (Fa) Advanced studies and problems in drawing techniques and materials. Prerequisite: ARTS 2003 and ARTS 2013.

ARTS3103 Painting I (Sp, Fa) An exploration of different ways of articulating visual forms on a picture plane, using common materials and procedures. Pre- or Corequisite: ARTS 1313 and ARTS 2013 or ARCH 1025.

ARTS3123 Painting: Water Media (Irregular) Introductory course presenting basic materials and techniques of watercolor, gouache, and acrylic painting. Form and composition to be studied through observation and imagination. Traditional techniques as well as experimentation and personal expression are to be explored. Prerequisite: ARTS 1013 and ARTS 1313 and ARTS 1323.

ARTS3133 Figure Painting (Irregular) Introduction to representational and interpretive figure painting and to contemporary issues in figurative painting. The model as well as other visual sources will be used as a basis for observation, interpretation and invention. Prerequisite: ARTS 2013, ARTS 3103.

ARTS3153 Painting Perception Into Abstraction (Irregular) Investigation of the abstraction of visual phenomena. Various starting points and approaches will be studied. Emphasis on the analysis of form, the creation of pictorial structure, and the conceptual basis of perceptual abstraction. Prerequisite: ARTS 3103.

ARTS3203 Sculpture I: Fundamentals of Modeling, Carving & Casting (Fa) An introduction to fundamental additive and subtractive sculpture techniques and methods of seeing and working that give expression to material form. Beginning techniques in modeling, carving, mold-making, and basic casting are demonstrated. Lectures, readings, and critiques will develop student awareness of traditional building techniques which inform contemporary sculpture practices. Prerequisite: ARTS 1323.

ARTS3213 Sculpture II: Construction Methods & Alternative Media (Sp) A focus on material sensitivity through thoughtful and skillful additive approaches. Woodworking as well as construction techniques in alternative media are introduced as tools to examine structural and spatial possibilities. Through examining and questioning the interplay of form, material, technique, and content, students will further develop their own critique skills. Prerequisite: ARTS 3203.

ARTS3333 Color Studies (Fa) Investigation of color qualities and relationships through research and studio problems. Prerequisite: ARTS 1313 and ARTS 1323 and ARTS 2013.

ARTS3363 Graphic Design I (Sp, Fa) An overview of design principles and the application of design processes to posters, logos, stationery, and publication design. Conceptual development and visual and technical problem solving skills are emphasized. Prerequisite: ARTS 1013 and ARTS 2313.

ARTS3403 Etching I (Sp) Introduction to intaglio and relief. Prerequisite: ARTS 1313 and (ARTS 2003 or ARTS 2013).

ARTS3413 Etching II (Sp) Advanced work in intaglio or relief. Students select one area for study. Intaglio emphasizes working with copper plates and color printing. Background in color studies preferred but not mandatory. Prerequisite: ARTS 3403 or ARTS 3463.

ARTS3423 Printmaking-Lithography (Fa) Introduction to lithography with emphasis on stone lithographic techniques. Prerequisite: ARTS 1313 and (ARTS 2003 or ARTS 2013 or ARTS 2023).

ARTS3433 Lithography II (Fa) Advanced study with emphasis on color printing and plate lithography techniques. Prerequisite: ARTS 3423.

ARTS3443 Serigraphy I (Irregular) Introduction to serigraphy techniques, including cut stencil, resist methods, and photosensitized screens. Some knowledge of photography preferred, but not mandatory. Prerequisite: ARTS 1313 and (ARTS 2003 or ARTS 2013 or ARTS 2023).

ARTS3453 Serigraphy II (Irregular) Continuation of the study and use of serigraphy techniques. Prerequisite: ARTS 3443.

ARTS3463 Introduction to Printmaking (Su) Introduces the student to printmaking through primary methods used in relief, serigraphic, intaglio, and lithographic techniques. Prerequisite: ARTS 1013 and (ARTS 2003 or ARTS 2013 or ARTS 2023).

ARTS3503 Ceramics: Handbuilding I (Fa) This is an introductory course in ceramic sculpture focusing on basic handbuilding techniques and
basic ceramic processes including clay mixing, glaze mixing, and low temperature gas and electric firing techniques. Pre- or Corequisite: ARTS 1013 and ARTS 1313 and ARTS 1323.

ARTS3523 Ceramics: Wheellothing I (Sp) This is an introductory course in ceramics focusing on basic functional wheellothing techniques and basic ceramic processes including clay mixing, glaze mixing, and low-temperature gas and electric firing techniques. Pre- or Corequisite: ARTS 1013 and ARTS 1313 and ARTS 1323.

ARTS3533 Ceramics: Wheellothing II (Fa) This course is an intermediate course in wheellothing and some handbuilding. A primary emphasis is on clay body and glaze calculation, and understanding the processes of firing low, high, and atmospheric kilns. Prerequisite: ARTS 3503 and ARTS 3523.

ARTS3543 Ceramics: Slip-Casting (Sp) This is an intermediate course in ceramic sculpture focusing on concept based object making. The techniques taught are mold-making and slip-casting, along with an advanced understanding of clay mixing, glaze mixing, low and high temperature gas, salt/soda, and electric firing techniques. Prerequisite: ARTS 3503 and ARTS 3523.

ARTS3803 Photography I (Sp, Fa) Beginning photography. Introduction to analog and digital B & W materials, techniques, and theory. Development of visual ideas through assignments, critiques, slide lectures, and demonstrations. Prerequisite: ARTS 2313.

ARTS3813 Alternative Photographic Processes (Irregular) Advanced B & W materials, techniques, and theory. Introduction to “non-traditional” materials, techniques, and theory (Cyanotype, Van Dyck Brownprint, Gum Biochromate, KWIK-PRINT, etc.). Assignments, critiques, slide lectures, and demonstrations. Prerequisite: ARTS 3803.

ARTS4023 Figure Drawing II (Irregular) Advanced study of the figure with emphasis on figure structure and its relationship to pictorial form in drawing. Prerequisite: ARTS 2013.

ARTS404V Special Problems in Drawing (Sp, Su, Fa) (1-6) Individual projects in drawing arranged with the instructor. Prerequisite: ARTS 3023. May be repeated for up to 6 hours of degree credit.

ARTS4133 Landscape Painting (Irregular) Exploration of perceptual and conceptual approaches to painting the landscape. Both traditional and experimental techniques of oil painting will be studied. Includes outdoor on-site painting. Prerequisite: ARTS 3103.

ARTS4153 Topics in Advanced Painting (Irregular) Topics in advanced and experimental painting. Prerequisite: 6 hours of painting. May be repeated for up to 12 hours of degree credit.

ARTS417V Special Problems in Painting (Sp, Fa) (1-6) Individual technique and subject matter projects to be arranged with the instructor. Prerequisite: ARTS 4143. May be repeated for up to 6 hours of degree credit.

ARTS4193 Senior Painting Studio (Irregular) Intensive course for those art majors concentrating in painting. Extended, individually determined projects will emphasize production of a well researched, conceptually grounded and cohesive body of work. Supplemented by reading, writing and discussion of contemporary issues in painting. Pre- or corequisite: Senior standing, ARTS 3103 and three additional hours of painting from ARTS 3113, 3123, 3133, 3153, 4133, 4143, 4153, or 4163. May be repeated for up to 6 hours of degree credit.

ARTS4213 Mixed Media & Spatial Context (Irregular) An exploration in assemblage, installation, environmental art, light, and kinetics as they apply to contemporary sculptural language. Specific problems utilizing various media are preceded by readings, lectures, and demonstrations. Prerequisite: ARTS 3203.

ARTS4223 Advanced Sculpture (Irregular) A directed analysis of form and its relationship to content based on the development of work in students’ medium of choice. Students will acquire the technical skills needed to meet personal vision through guidance of the instructor. Research evidenced in work, discussions, and critiques is emphasized. Prerequisite: ARTS 3203 and ARTS 3213.

ARTS423V Special Problems in Sculpture (Sp, Fa) (1-6) Individual projects in sculpture with emphasis on materials exploration. Prerequisite: ARTS 4223. May be repeated for up to 6 hours of degree credit.

ARTS4333 Bookmaking (Irregular) Introduction to the creation of unique, limited edition artist’s bookworks -- with emphasis on technical knowledge and conceptual understanding of the book form as a means of artistic expression.

ARTS4343 Advanced Design (Sp) Studio problems in the interrelationships of two and three-dimensional elements in traditional, experimental, and digital media. Prerequisite: ARTS 1313 and ARTS 1323 and ARTS 2313.

ARTS435V Special Problems in Design (Irregular) (1-6) Extended problems in an area of interest in pure or functional design; encouraged use of imaginative materials. Prerequisite: ARTS 4343. May be repeated for up to 6 hours of degree credit.

ARTS4363 Visual Design: Typography (Fa) Studies include type as form, typographic contrast principles, legibility, text organization and hierarchy, and experimental approaches to typographic design. Overview of typographic history is included. Current computer software applications utilized. Prerequisite: ARTS 3363.


ARTS4383 Graphic Design: Layout (Irregular) Advanced explorations of organizational principles and design processes applied to print media. Contemporary design practices and graphic design history are studied. Current computer software applications utilized. Prerequisite: ARTS 3363.

ARTS439V Special Problems in Graphic Design (Sp, Fa) (1-6) Advanced individual projects in graphic design. Prerequisite: Any 4000 level ARTS visual design course except ARTS 4343. May be repeated for up to 6 hours of degree credit.

ARTS4463 Etching III (Sp, Fa) Continued study of intaglio or relief. Prerequisite: ARTS 3413.

ARTS4473 Lithography III (Irregular) Advanced study of lithography techniques. Prerequisite: ARTS 3433.

ARTS4483 Printmaking IV (Sp, Fa) Continued advanced study in various printmaking media. Prerequisite: ARTS 4463 or ARTS 4473.

ARTS449V Special Problems in Prints (Sp, Fa) (1-6) Individual projects in one area of printmaking. Prerequisite: ARTS 4463 or ARTS 4473. May be repeated for up to 6 hours of degree credit.
ARTS4573 Advanced Ceramics (Sp, Fa) This is an advanced course where any ceramic technique can be used. The course continues advanced study of glaze and clay calculation, and kiln design, building, and firing. Prerequisite: ARTS 3503 and ARTS 3523 and ARTS 3533 and ARTS 3543. May be repeated for up to 6 hours of degree credit.

ARTS458V Special Problems in Ceramics (Sp, Fa) (1-3) Individual projects in ceramic techniques. Prerequisite: ARTS 3503 or ARTS 3523. May be repeated for up to 6 hours of degree credit.

ARTS459V Individual Instruction (Sp, Fa) (1-6) Special projects on an arranged basis for advanced students in any area of art in which the catalog sequence of courses has been completed. May be repeated for up to 6 hours of degree credit.

ARTS4613 Visual Design: Web I (Fa) This course introduces students to the World Wide Web and the technologies and practices involved in creating a successful Web presence. Discussions include interactivity, usability and accessibility with an emphasis on standards-based hand-coding with a special attention to graphic design standards.

ARTS4623 Visual Design: Web II (Sp) This course will study advanced techniques in creating successful Web sites, including information architecture, HTML and cascading style sheets, Web animation, digital photography, sequential storytelling and actual client work. Experimentation in concept, style and format are encouraged as students scrutinize the limitations and potential of design for the World Wide Web. Prerequisite: ARTS 4613.

ARTS4653 Elements of Animation (Irregular) This course explores the fundamentals of sequential imaging and storytelling from traditional methods through modern animation software. Computer based projects will make use of digital and video cameras, video editing software, Web animation software and a 3D animation package. Prerequisite: ARTS 1013, ARTS 1313, ARTS 2313.

ARTS4663 Visual Design: Motion Design (Sp) In this course, students will explore motion graphic design as it combines 2D and 3D animation, typography, video footage photography and sound. The projects will explore elements of storytelling, moving compositions and animation principles that focus on Web delivery, using mainly Apple Final Cut Pro and Adobe After Effects. Prerequisite: ARTS 4653.

ARTS469V Special Problems In Interactive Design (Irregular) (1-6) Students work on special projects on an individual basis with instructor, exploring innovative interface design, in-depth projects potentially exploring solutions to and awareness of social issues, with various types of media, from DVD and digital video to Web and motion graphics. Cross-discipline collaboration is encouraged. Prerequisite: ARTS 4613 and ARTS 4623 and ARTS 4653. May be repeated for up to 6 hours of degree credit.

ARTS4813 Digital Photography (Irregular) Introduction to digital photography production, techniques and theory. Digital input from scanning (flatbed & slide/negative), digital cameras, video and internet sources. Computer assisted manipulation of imagery for correction and abstraction. Output to a digital printing systems, analog systems (film recorder), servers and Internet. Prerequisite: ARTS 3803.

ARTS4823 Color Photography I (Irregular) Introduction to color production. Color materials, techniques and theory. Direct reversal transparencies and prints, color negative processing and printing, and manipulation of color materials. Assignments, demonstrations, critiques, and lectures. Prerequisite: ARTS 3803.

ARTS4833 Advanced Black and White Photography (Irregular) Advanced black and white theory, practice and techniques including: Zone System, large format camera and studio lighting. Prerequisite: ARTS 3803.

ARTS484V Special Problems in Photography (Sp, Fa) (1-6) Individual instruction for advanced undergraduates and graduate students. Special projects in photography designated by students in collaboration with faculty. Prerequisite: ARTS 3803 and (ARTS 3813 or ARTS 4823 or ARTS 4833). May be repeated for up to 6 hours of degree credit.

ARTS4853 Documentary Photography (Irregular) This course will introduce students to a variety of methods used in the area of documentary photography in order to give them the conceptual and technical skills necessary to create extended projects that focus on documenting and visually exploring subjects in an in-depth manner. Prerequisite: ARTS 3803.

ARTS490VH Honors Thesis (Sp, Fa) (1-6) Special problems in studio, art history, art criticism, art education, or a combination of these. Prerequisite: junior standing. May be repeated for up to 12 hours of degree credit.

ARTS491V Internships in Art (Sp, Su, Fa) (1-3) Credit for practical experience gained through internships in studio art, art history, gallery practices and/or art education. Report required from intern and field supervisor on significant accomplishments and/or progress. Prerequisite: junior standing and art major. May be repeated for up to 6 hours of degree credit.

ARTS4921 Senior Portfolio Review (Sp, Fa) Capstone course. A portfolio of creative work and supporting artist statement will be prepared and presented to the Art faculty in a formal presentation. Prerequisite: Art Majors only. Requires junior, senior or graduate standing.

ARTS493V Fine Arts Gallery Internship (Sp, Su, Fa) (1-3) Study all aspects of operating the Fine Arts Gallery. Research and preparation for exhibitions, organize and install exhibits, care of art works, create and distribute publicity, arrange interviews with newspapers, and other media.

ARTS494V Graphic Design Internship (Sp, Su, Fa) (1-6) Credit for practical experience gained through internship in graphic design. Report required form intern and field supervisor on progress and significant accomplishments. 3 credit hours per semester. Prerequisite: Any 4000 level ARTS visual design course except ARTS 4343. May be repeated for up to 6 hours of degree credit.

ARTS495V Special Topics (Irregular) (1-6) May be offered in a subject not specifically covered by the courses otherwise listed. May be repeated for up to 6 hours of degree credit.

ARTS498V Senior Thesis (Sp, Su, Fa) (1-6)

ARTS5013 Graduate Drawing (Fa) Graduate level study of drawing materials and techniques. Prerequisite: Graduate standing.

ARTS5913 Graduate Seminar in Studio Art (Fa) Examination and analysis of M.F.A. student’s art works. Prerequisite: Admission into the M.F.A. program.

ARTS5931 Graduate Drawing (Fa) Graduate level study of drawing materials and techniques. Prerequisite: Graduate standing.
student research. Prerequisite: Admission to MFA program. May be repeated for up to 6 hours of degree credit.

ARTS601V Master of Fine Arts Exhibition (Sp, Su, Fa) (1-6) Production and presentation of a one person exhibition of art work. The M.F.A. candidate will be responsible for making three acceptable slide sets of the exhibition and exhibition statements. Prerequisite: M.F.A. candidacy.

ARTS602V Graduate Drawing (Sp, Fa) (1-6) Individual problems in drawing techniques. Prerequisite: Graduate standing. May be repeated for credit.

ARTS612V Graduate Painting (Sp, Su, Fa) (1-6) Individual problems in painting techniques. Prerequisite: Graduate standing. May be repeated for credit.

ARTS622V Graduate Sculpture (Sp, Fa) (1-6) Individual problems in sculpture techniques. Prerequisite: Graduate standing. May be repeated for credit.

ARTS632V Graduate Design (Sp, Fa) (1-6) Individual problems in two and three dimensional design. Prerequisite: Graduate standing. May be repeated for credit.

ARTS642V Graduate Printmaking (Sp, Su, Fa) (1-6) Individual problems in printmaking techniques. Prerequisite: Graduate standing. May be repeated for credit.

ARTS652V Graduate Ceramics (Sp, Su, Fa) (1-6) Individual problems in ceramic techniques. Prerequisite: Graduate standing. May be repeated for credit.

ARTS682V Graduate Photography (Sp, Su, Fa) (1-6) Individual problems in photography. Prerequisite: Graduate standing. May be repeated for credit.

ARTS695V Special Topics (Irregular) (1-6) Subject matter not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

Astronomy (ASTR)

ASTR2001M Honors Survey of the Universe Laboratory (Fa) An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the sun, normal stars and interstellar medium, birth and death of stars, neutron stars, and black holes. Pre- or Corequisite: ASTR 2003 or ASTR 2003H. (Same as ASTR 2001L)

ASTR2001L Survey of the Universe Laboratory (Sp, Su, Fa) Daytime and nighttime observing with telescopes and indoor exercises on selected topics. Pre- or Corequisite: ASTR 2003.

ASTR2003 Survey of the Universe (Sp, Su, Fa) An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 2000L or ASTR 2001M.

ASTR2003H Honors Survey of the Universe (Fa) An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 2001M. May be repeated for up to 3 hours of degree credit.

ASTR301V Observational Astronomy (Irregular) (1-3) Individual experimental or observational problems studied with small telescopes, cameras, and other basic equipment. No credit is given toward a B.S. degree in physics. Prerequisite: ASTR 2003 or ASTR 3003.

ASTR3033 Solar System Astronomy (Irregular) Basic course on state of knowledge of solar system astronomy, especially designed for students in B.A. Physics program or as an elective for undergraduates in related areas. Prerequisite: PHYS 2033 and PHYS 2031L or PHYS 2074.

ASTR4013 Astrophysics (Even years, Sp) Introduction to astrophysics for seniors. The course covers stellar evolution, interstellar medium, galactic nucleogenesis and observational cosmology. Prerequisite: PHYS 3614 or CHEM 3504.

ASTR4073 Cosmology (Even years, Fa) An introduction to modern Big Bang cosmology. The course covers the origin, evolution, and structure of the Universe, based on the Theory of Relativity. Prerequisite: PHYS 3614 or CHEM 3504.

ASTR5013 Astrophysics (Even years, Sp) Introduction to astrophysics. The course covers stellar evolution, interstellar medium, galactic nucleogenesis and observational cosmology. Prerequisite: PHYS 3614 or CHEM 3504.

ASTR5033 Planetary Systems (Fa) The nature of the solar system and other planetary systems as deduced from observations and theoretical modeling. Structure and evolution of terrestrial and Jovian planets and their satellites. Planetary atmospheres, magnetospheres, and the solar wind; planetary interiors. Theoretical and observed properties of exoplanetary systems; astrobiology.

Athletic Training (ATTR)

ATTR5212 Athletic Training Clinical I - Application of Athletic Preventive Devices (Su) This course will serve as an introduction to the athletic training clinical program. Procedures and policies of the clinical program and application of athletic preventive devices will be included as well. Prerequisite: Admission to the graduate program in athletic training.

ATTR5222 Athletic Training Clinical II - Emergency Procedures (Su) This course will serve as a process for monitoring student’s progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce and instruct new emergency procedures. Prerequisite: ATTR 5212.

ATTR5232 Athletic Training Clinical III - Lower Extremity Evaluation (Fa) This course will serve as a process for monitoring student’s progression of athletic training proficiencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce the evaluation skills of gait, lower extremity, and spine/pelvis. Prerequisite: ATTR 5222.

ATTR5242 Athletic Training Clinical IV - Evaluation of Upper Extremity (Sp) This course will serve as a process for monitoring student’s progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce the evaluation skills of the upper extremities, head, neck, and posture. Prerequisite: ATTR 5232.

ATTR5252 Athletic Training Clinical IV (Su) This course will monitor students’ progression of athletic training competencies and, acquisition
of clinical hours under the direct supervision of a athletic training clinical instructor during pre-season conditioning. Prerequisite: ATTR 5232.

ATTR5262 Athletic Training Clinical VI - Rehabilitation Lab (Fa) This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce techniques and applications of therapeutic exercise and rehabilitation. Prerequisite: ATTR 5252.

ATTR5272 Athletic Training Clinical VII - Athletic Training Seminar (Sp) This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and serve as a capstone course validating the athletic training clinical proficiencies and prepare students for the NATABOC certification exam and future employment. Prerequisite: ATTR 5262.

ATTR5363 Evaluation Techniques of Athletic Injuries - Upper Extremity (Sp) Use of scientific assessment methods to recognize and evaluate the nature and severity of athletic injuries to the upper extremities, trunk, and head. Prerequisite: Admission to graduate athletic training program.

ATTR5373 Evaluation Techniques of Athletic Injuries - Lower Extremity (Fa) Use of scientific assessment methods to recognize and evaluate the nature and severity of athletic injuries to the hip and lower extremities. Prerequisite: Admission to graduate athletic training program.

ATTR5433 Therapeutic Modalities in Athletic Training (Fa) Contemporary therapeutic modalities used in managing athletic injuries. Modalities covered are classified as thermal agents, electrical agents, or mechanical agents. Emphasis is placed on their physiological effects, therapeutic indications (and contraindications), and clinical application. Prerequisite: Admission to graduate athletic training program.

ATTR5453 Therapeutic Exercise and Rehabilitation of Athletic Injuries (Fa) A systematic approach to exercise program development, techniques, indications and contraindications of exercise, and progression as related to athletic injury, prevention, and return to play guidelines. Prerequisite: Admission to graduate athletic training program.

ATTR5470 Administration in Athletic Training (Su) Administrative components of athletic training. Basic concepts of legal liability, leadership and management principles, financial management, day to day scheduling and supervision, maintenance, and general administration. Prerequisite: Admission to graduate athletic training program.

ATTR5483 Medical Conditions in Athletic Training (Fa) This course will provide a collection of knowledge, skills, and values that the entry-level certified athletic trainer must possess to recognize, treat, and refer, when appropriate, the general medical conditions and disabilities of athletes and others involved in physical activity. Prerequisite: Admission to the graduate athletic training program or permission of instructor.

ATTR5493 Evidence Base Practice in Athletic Training (Su) In-depth analysis of current literature, research, case studies, and musculoskeletal evaluation and rehabilitation directed toward musculoskeletal injuries of the physically active. Prerequisite: Admission into the Athletic Training Education Program.

Biological Engineering (BENG)

BENG1012 Biological Engineering Design Fundamentals (Irregular) Introduction to the profession of Biological Engineering including a definition, and demonstration through field trips, guest speakers, examples of job opportunities and internships. Basic engineering methodologies, including analysis and design, as applied to biological systems. Introduction to problem solving, data analysis, report writing, presentations, and engineering record keeping. Group activities and team design efforts. Lecture 1 hour, laboratory 3 hours per week. Corequisite: Lab component.

BENG1022 Biological Engineering Design Studio I (Irregular) Practice of biological engineering design in the Biological Engineering Design Studio. Design projects explore the unique problems associated with engineering applied to biological systems. Group activities to teach teamwork skills in the context of engineering practice, including reporting, project management, time management, communication and balancing individual and team accountability. Introduction and application to a computer aided graphics package. Lecture 1 hour, laboratory 3 hours per week. Prerequisite: BENG 1012 or GNEG 1103. Corequisite: Lab component.

BENG2612 Biological Engineering Design Studio II (Fa) Applications of biology, chemistry and physics to the design of life support for enclosed biological systems involving people, animals, plants and microbes. Design process will be based upon engineering analyses such as quantifying bio-energetics and growth, energy and mass balances, solar energy and use of watershed modeling tools. Student teams will be presented multiple design modules that include literature/experimental discovery, open-ended design and prototype testing. 4 hours of design studio per week. Prerequisite: PHYS 2054, BIOL 1543/1541L, GNEG 1111 or GNEG 1103.

BENG2622 Biological Engineering Design Studio III (Sp) Continuation of BENG 2612. Design Studio experience includes additional life support system design modules. Design process will include discussion of social issues and ethics, use of engineering economics as a tool to evaluate design alternatives. Use of descriptive statistics and regression to analyze experimental data. Improve written and oral communication skills through presentation of design project results. 4 hours of design studio per week. Pre- or Corequisite: PHYS 2054, BIOL 2533/2531L, GNEG 1111 or GNEG 1103.

BENG2632 Biological Engineering Design Studio (Fa) Application of the engineering design process to projects involving living systems. Projects are team-based open-ended design with hands-on construction and testing of design prototypes. Emphasis is placed on understanding, quantifying and controlling complex interacting living systems involving humans, animals, plants and microbes with the goal of creating economically and ecologically sustainable systems. 4 hours of design studio per week. Pre- or Corequisite: PHYS 2054 and BIOL 1543/1541L, and (GNEG 1111 or GNEG 1103).

BENG2643 Biological Engineering Methods (Sp) Introduction to the tools needed to perform biological engineering design, integrated through projects in the food, energy and/or water area. The tools covered include structured programming language for modeling, statistical analysis, geographic information systems, engineering graphics, and engineering economics. Two hours of lecture and three hours of lab per week. Corequisite: Lab component. Prerequisite: BENG 2632.

BENG3104 Electronic Instrumentation for Biological Systems (Sp) Theory and advanced applications of analog circuits, digital circuits, and commercial instruments involving biological materials and systems. Lecture 3 hours, laboratory 3 hours per week. Prerequisite: PHYS 2074.

BENG3104H Honors Electronic Instrumentation for Biological Systems (Sp) Theory and advanced applications of analog circuits, digital circuits,
and commercial instruments involving biological materials and systems. Lecture 3 hours, laboratory 3 hours per week. Prerequisite: PHYS 2074.

BENG3213 Biomedical Engineering: Emerging Methods and Applications (Sp) Introductory course for undergraduate biomedical engineering students. Emerging biomedical engineering topics including: tissue engineering, stem cell engineering, biomedical nanotechnology, medical imaging and biosensing, single molecule imaging, biomarker discovery and proteomics, gene therapy, drug delivery, and protein engineering. Design of components for tissue engineering processes, nanodrug delivery and nanotechnology based disease detection. Lecture 3 hours per week. Pre- or Corequisite: BENG 3723. Prerequisite: BIOL 2533/2531L, or BIOL 2013/2011L.

BENG3653 Global Bio-Energy Engineering (Sp) Global energy sources with a focus on renewable energy, solar and biomass derived fuels. Biomass energy production from crops and organic residues or waste products. Conversion of biomass to usable fuels. Utilization of renewable energy in society. Includes detailed systems analyses to examine inputs, efficiencies, usable outputs and by-products. Systems design to select and integrate components which meet client needs while maximizing sustainable global impacts. Three hours of lecture per week. Pre- or Corequisite: BENG 2643 and (MEEG 2403 or CHEG 2313).

BENG3712 Engineering Properties of Biological Materials (Fa) Measuring and predicting the physical, chemical, and biological properties of biological materials necessary for the analysis and design of production and processing systems. Lecture 2 hours per week. Prerequisite: BENG 2622.

BENG3723 Unit Operations in Biological Engineering (Sp) Design of basic unit operations typical of biological engineering practice; unit operations include pump-pipe, fan-duct, moist air (psychrometric) processes (cool/heater/humidifier/dryer), air mixing, aeration, and refrigeration; unit operations design will account for unique constraints imposed by biological systems. Lecture 2 hours and lab 3 hours per week. Corequisite: Lab component. Prerequisite: (MEEG 2403 or CHEG 2313) and (CVEG 3213 or CHEG 2133 or MEEG 3503).

BENG3733 Transport Phenomena in Biological Systems (Fa) Basic principles governing transport of energy and mass. Estimating transfer of energy (heat) through solid bodies and liquid/gas boundary layers through conduction, convection, and radiation. Modeling the rates at which biological reactions occur (kinetics). Estimating the transfer of diffusing mass (gas or liquid) through solid bodies and liquid/gas boundary layers, including processes such as drying and oxygen diffusion. Three hours lecture per week. Pre- or Corequisite: (CVEG 3213 or MEEG 3503 or CHEG 2133.) Prerequisite: (MEEG 2403 or CHEG 2313) and MATH 2584.

BENG3743 Food and Bio-Product Systems Engineering (Sp) Sustainable bio-product engineering through biosystem design, analysis, modeling, control, and optimization. Life cycle phases for bio-products (food, fiber, feed, and fuel). System analysis of inputs and outputs of energy, water and mass for the purpose of producing and processing biomass for human uses. Advanced bio-process design topics to utilize enzymes, cells, tissues and organisms to create bio-products and methods for deactivating biological agents to preserve the quality and safety of food and other bio-products. Three hours lecture per week. Prerequisite: BENG 3723 and BENG 3733.

BENG3803 Mechanical Design in Biological Engineering (Sp) Introduction to the mechanical design process applied to biological engineering, with examples of mechanical components interfacing with biological systems.
This is an introductory course focusing on fundamentals of physiological systems and modeling and how this relates to analysis and equipment design. Topics include: brief overview of anatomy and physiology; bioelectric phenomena, physiological modeling, cardiovascular system, biomechanics, computational biology. Requires a background in circuits, fluid dynamics, mechanics, biology, and chemistry. Lecture 3 hours per week. Prerequisite: MATH 2584 and Senior standing.

BENG4223 Numerical Methods in Biomedical Engineering (Sp) Application of mathematical techniques and numerical methods for analyzing biological data and solving biological problems. The emphasis will be computer simulation and mathematical modeling applications in biomedical engineering. Prerequisite: MATH 2584.

BENG4233 Tissue Engineering (Fa) Introduction to tissue engineering. Topics include quantitative cell and tissue biology, tissue dynamics, cellular-fate processes, coordination of cellular-fate processes, stem cell differentiation and organ regeneration, biomaterials and tissue scaffolding, gene therapy, and clinical implementation of tissue engineered products. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CHEM 3613.

BENG4243 Biomaterials (rate concepts; thermodynamics and equilibrium stage concepts; engineering economics; professionalism; ethics; computer applications; and introduction to process simulation. Corequisite: Drill component. Prerequisite: CHEG 1113 and (CHEM 1123 or CHEM 1133 or CHEM 1223).

CHEG2133 Fluid Mechanics (Sp, Su, Fa) Analysis and design of fluids handling equipment and systems. Application of the principles of fluid statics, fluid dynamics, compressible flow, etc. Pre- or Corequisite: MATH 2574.

CHEG2133H Honors Fluid Mechanics (Sp, Su, Fa) Analysis and design of fluids handling equipment and systems. Application of the principles of fluid statics, fluid dynamics, compressible flow, etc. Pre- or Corequisite: MATH 2574.


CHEG3143 Heat Transport (Sp, Fa) Application of the principles of conduction, convection and radiation to the analysis and design of chemical processing heat transfer equipment and systems such as double-pipe and shell-and-tube heat exchangers, multiple-effect evaporators, condensers, and boilers. Prerequisite: CHEG 2133 and CHEG 2313.

CHEG3143H Honors Heat Transport (Sp, Fa) Application of the principles of conduction, convection and radiation to the analysis and design of chemical processing heat transfer equipment and systems such as double-pipe and shell-and-tube heat exchangers, multiple-effect evaporators, condensers, and boilers. Prerequisite: CHEG 2133 and CHEG 2313.

CHEG3153 Non-Equil Mass Transfer (Sp, Su) Fundamentals of chemical diffusional processes. Applications in chemical engineering design of stagewise and continuous separations. Prerequisite: CHEG 2133 and CHEG 3323.

CHEG3153H Honors Non-Equil Mass Transfer (Sp, Su) Fundamentals of chemical diffusional processes. Applications in chemical engineering design of stagewise and continuous separations. Prerequisite: CHEG 2133 and CHEG 3323.

CHEG3232L Chemical Engineering Laboratory II (Sp, Fa) Experimental investigations of fluid flow, heat transfer, and thermodynamics. Complete written reports are required. Pre- or Corequisite: CHEG 3143. Corequisite: Drill component. Prerequisite: CHEG 1212L.

CHEG3253 Chemical Engineering Computer Methods (Sp) Application of computer methods to chemical engineering problems including a review of structured programming principles. Corequisite: CHEG 3143 and drill component. Prerequisite: MATH 2584.

CHEG3323 Thermodynamics of Multi-Component Systems (Sp, Fa) The use of the state principle and energy and entropy balance developed in CHEG 2313 is extended to allow processes. Physical and chemical equilibrium processes are considered in detail. Prerequisite: CHEG 2313 and MATH 2574.

CHEG3323H Honors Thermodynamics of Multi-Component Systems (Sp, Fa) The use of the state principle and energy and entropy balance developed in CHEG 2313 is extended to allow processes. Physical and chemical equilibrium processes are considered in detail. Prerequisite: CHEG 2313 and MATH 2574.

CHEG3333 Chemical Engineering Reactor Design (Sp, Su) Principles of kinetics of homogeneous and heterogeneous reactions, catalysis, and reactor design with applications, drawn from industrial processes. Pre- or Corequisite: CHEG 3253. Prerequisite: CHEG 1123 and MATH 2584.

CHEG3333H Honors Chemical Engineering Reactor Design (Sp, Su) Principles of kinetics of homogeneous and heterogeneous reactions, catalysis, and reactor design with applications, drawn from industrial processes. Prerequisite: CHEG 1123 and MATH 2584.

CHEG3713 Chemical Engineering Materials Technology (Sp) Selection of metals, polymers and ceramics for service in process conditions (including corrosion). In addition to static strains on materials, specialized materials such as semiconductors, composites, and nano-materials are studied. The relationship between molecular structure and macroscopic properties is emphasized including processing and manufacture. Prerequisite: CHEM 3603 and PHYS 2054 and CHEG 3323.

CHEG4163 Equil Stage Mass Transfer (Fa) Applications of chemical engineering design to stagewise and continuous separations in systems approaching equilibrium. Prerequisite: CHEG 3323.

CHEG4163H Honors Equil Stage Mass Transfer (Fa) Applications of chemical engineering design to stagewise and continuous separations in systems approaching equilibrium. Prerequisite: CHEG 3323.

CHEG4273 Corrosion Control (Sp) Qualitative and quantitative introduction to corrosion and its control. Application of the fundamentals of corrosion control in the process industries is emphasized. Prerequisite: CHEG 2313.

CHEG4332L Chemical Engineering Laboratory III (Sp, Su, Fa) Experimental investigations of mass transfer and kinetics/reactor design.
CHEG4413 Chemical Engineering Design I (Sp, Fa) Principles of cost estimation, profitability, economic analysis, and economic balances as practiced in the chemical process industries. Special emphasis on the solution of problems involving the combination of engineering principles and economics. Corequisite: Drill component. Pre- or Corequisite: CHEG 3153, CHEG 3333, and CHEG 4163. Corequisite: CHEG 3323L.

CHEG4423 Automatic Process Control (Sp) Application of mathematical modeling methods to the description of transient phenomena of interest to process engineers. Modes of control and principles of feedback control are introduced with applications to process engineering problems. Prerequisite: CHEG 3143 and CHEG 3253.

CHEG4433H Honors Chemical Engineering Design II (Sp, Fa) Responsibility for decision making is placed on the students in the solution of a comprehensive, open ended problem based on an industrial process. Both formal oral and formal written presentation of results are required. Corequisite: Drill component. Prerequisite: CHEG 4413 and CHEG 4163.

CHEG4443H Honors Chemical Engineering Design II (Sp, Fa) Responsibility for decision making is placed on the students in the solution of a comprehensive, open ended problem based on an industrial process. Both formal oral and formal written presentation of results are required. Corequisite: Drill component. Prerequisite: CHEG 4413 and CHEG 4163.

CHEG44813 Chemical Process Safety (Fa) Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Prerequisite: CHEG 2133 and CHEG 3323.

CHEG4813H Honors Chemical Process Safety (Fa) Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Prerequisite: Senior standing.

CHEG488V Special Problems (Sp, Su, Fa) (1-6) Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

CHEG5013 Membrane Separation and System Design (Fa) Theory and system design of cross flow membrane process—reverse osmosis, nanofiltration, ultrafiltration, and microfiltration—and applications for pollution control, water treatment, food and pharmaceutical processing. Prerequisite: CHEG 3153.

CHEG5033 Technical Administration (Irregular) Contemporary issues affecting the domestic and global Chemical Process Industries (CPI). Emphasis is on process economics, market and corporate strategy as well as advances in technology to improve corporate earnings while addressing the threats and opportunities in the CPI. Prerequisite: Senior or graduate standing.

CHEG5113 Transport Processes I (Fa) Fundamental concepts and laws governing the transfer of momentum, mass, and heat. Pre- or Corequisite: MATH 3423. Prerequisite: CHEG 2313 (or equivalent).

CHEG5133 Advanced Reactor Design (Fa) Applied reaction kinetics with emphasis on the design of heterogeneous reacting systems including solid surface catalysis, enzyme catalysis, and transport phenomena effects. Various types of industrial reactors, such as packed bed, fluidized beds, and other non-ideal flow systems are considered. Prerequisite: CHEG 3333.

CHEG5213 Advanced Chemical Engineering Calculations (Sp) Developments of and solutions of equations and mathematical models of chemical processes and mechanisms. Prerequisite: CHEG 3333 and CHEG 3253.

CHEG5273 Corrosion Control (Sp) Qualitative and quantitative introduction to corrosion and its control. Application of the fundamentals of corrosion control in the process industries is emphasized. Prerequisite: CHEG 2313.

CHEG5313 Planetary Atmospheres (Irregular) Origins of planetary atmospheres, structures of atmospheres, climate evolution, dynamics of atmospheres, levels in the atmosphere, the upper atmosphere, escape of atmospheres, and comparative planetology of atmospheres. (Same as SPAC 5313)

CHEG5333 Advanced Thermodynamics (Fa) Methods of statistical thermodynamics, the correlation of classical and statistical thermodynamics, and the theory of thermodynamics of continuous systems (non-equilibrium thermodynamics). Prerequisite: CHEG 3323.

CHEG5353 Advanced Separations (Sp) Phase equilibrium in non-ideal and multicomponent systems, digital and other methods of computation are included to cover the fundamentals of distillation, absorption, and extraction. Prerequisite: CHEG 4163.

CHEG5513 Biochemical Engineering Fundamentals (Sp) An introduction to bioprocessing with an emphasis on modern biochemical engineering techniques and biotechnology. Topics include: basic metabolism (procaroyte and eucaryote), biochemical pathways, enzyme kinetics (including immobilized processes), separation processes (e.g. chromatography) and recombinant DNA methods. Material is covered within the context of mathematical descriptions (calculus, linear algebra) of biochemical phenomenon. Prerequisite: CHEG 3143.

CHEG5733 Polymer Theory and Practice (Fa) Theories and methods for converting monomers into polymers are presented. Topics include principles of polymer science, commercial processes, rheology, and fabrication. Prerequisite: CHEM 3603 or CHEM 3613.

CHEG5801 Graduate Seminar (Sp, Fa) Oral presentations are given by master's candidates on a variety of chemical engineering subjects with special emphasis on new developments. Prerequisite: Graduate standing.
CHEG588V Special Problems (Sp, Su, Fa) (1-6) Opportunity for individual study of an advanced chemical engineering problem not sufficiently comprehensive to be a thesis. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

CHEG600V Master’s Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

CHEG6123 Transport Processes II (Sp) Continuation of CHEG 5113.

CHEG6203 Preparation of Research Proposals (Sp) Prerequisite: Graduate standing.

CHEG6801 Graduate Seminar (Sp, Fa) Oral presentations are given by doctoral students on a variety of chemical engineering subjects with special emphasis on new developments. Prerequisite: graduate standing.

CHEG688V Special Topics in Chemical Engineering (Sp, Su, Fa) (1-3) Advanced study of current Chemical Engineering topics not covered in other courses. Prerequisite: Doctoral students only. May be repeated for up to 3 hours of degree credit.

CHEG700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Chemistry (CHEM)

CHEM1051L Chemistry in the Modern World Laboratory (Sp) Laboratory exercises are appropriate to Chemistry in the Modern World. Meets 2 hours per week. Corequisite: CHEM 1053.

CHEM1053 Chemistry in the Modern World (Sp) The impact of chemical developments upon contemporary society. Chemical problems of ecological, environmental, nutritional, economic, and sociological concern. Designed for non-science majors. Lecture 3 hours per week. Corequisite: CHEM 1051L.

CHEM1071L Fundamentals of Chemistry Laboratory (Sp, Fa) Laboratory exercises in principles and practices of Fundamental Chemistry. Meets 2 hours per week. Corequisite: CHEM 1073.

CHEM1073 Fundamentals of Chemistry (Sp, Fa) Fundamental principles of chemistry for students majoring in Home Economics or Nursing. Lecture 3 hours, recitation 1 hour per week. Corequisite: CHEM 1071L and related course component drill section for CHEM 1073.

CHEM1101L University of Chemistry Laboratory (Sp, Fa) Laboratory exercises illustrating qualitative concepts and laboratory techniques in chemistry. Meets 3 hours per week for 1 hour credit. (Same as CHEM 1211L)

CHEM1103 University Chemistry I (Sp, Fa) Survey of basic chemical principles designed as an introductory course for science, engineering or agriculture majors. CHEM 1101L is a recommended laboratory for students who do not have credit for chemistry laboratory work at the high school level. Corequisite: Drill component and CHEM 1101L. Pre- or Corequisite: MATH 1203 or higher (or satisfactory performance on the mathematics proficiency exam). (Same as CHEM 1213)

CHEM1113 University Chemistry for Engineers I (Su, Fa) Develops the topics of dimensional analysis, atomic structure and periodicity, bonding, stoichiometry, thermodynamics, kinetics, solution chemistry, and chemical equilibrium in detail. Students may not receive degree credit for both CHEM 1103 and CHEM 1113. Corequisite: drill component for CHEM 1113. Prerequisite: MATH 1203 or higher and ENGR student.

CHEM1121M Honors University Chemistry II Laboratory (Sp, Fa) Quantitative laboratory with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, and descriptive inorganic chemistry. Designed for students in the honors programs. Laboratory 3 hours per week. Corequisite: CHEM 1123H. (Same as CHEM 1121L, CHEM 1221L)

CHEM1121L University Chemistry II Laboratory (Sp, Su, Fa) Quantitative laboratory with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, and descriptive inorganic chemistry. Laboratory 3 hours per week for 1 credit hour. Upon successful completion of 1121 with a grade of "C" or better, credit for 1101L will also be given for students who passed the 1103 proficiency exam. Corequisite: CHEM 1123 and related course component drill section for CHEM 1123. (Same as CHEM 1221L)

CHEM1123 University Chemistry II (Sp, Su, Fa) Presents the topics of periodicity, bonding, stoichiometry, thermodynamics, kinetics, and chemical equilibrium in detail. Lecture 3 hours per week. Students who pass the CHEM 1103 Freshman Chemistry Proficiency Exam and enroll in CHEM 1123/1121L and receive a grade of C or better in these courses will also receive credit for CHEM 1103/1101L. Corequisite: CHEM 1121L and related course component drill section for CHEM 1123. Prerequisite: CHEM 1103 (or CHEM 1213 or satisfactory performance on the chemistry proficiency examination) and MATH 1203 or higher or satisfactory performance on the mathematics proficiency examination. (Same as CHEM 1223)

CHEM1123H Honors University Chemistry II (Sp, Fa) Presents the topics of periodicity, bonding, stoichiometry, thermodynamics, kinetics, and chemical equilibrium in detail. Lecture 3 hours per week. Upon successful completion of 1123 with a grade of "C" or better, credit for 1103 can be requested by students who passed the 1103 proficiency exam. Corequisite: CHEM 1121M and related course component drill section for CHEM 1123H. Prerequisite: CHEM 1103 (or CHEM 1213 or satisfactory performance on the chemistry proficiency examination) and MATH 1203 or higher or satisfactory performance on the mathematics proficiency examination.

CHEM1131L University Chemistry for Engineers II Laboratory (Sp, Su) Quantitative laboratory experience with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, descriptive inorganic chemistry, and properties of matter. Designed especially for students in the College of Engineering enrolled in CHEM 1133. Students may not receive degree credit for both CHEM 1131L and CHEM 1121L. Corequisite: Drill component and CHEM 1133. Prerequisite: CHEM 1113.

CHEM1133 University Chemistry for Engineers II (Sp, Su) Develops further the topics of solution chemistry, characteristics of the various states of matter, chemical reactivity, thermochemistry, atomic structure, theories of bonding, solubility, electrochemistry, nuclear chemistry, coordination chemistry, descriptive chemistry, and the chemistry of organic and biological molecules. Students may not receive degree credit for both CHEM 1133 and CHEM 1123. Corequisite: Drill component and CHEM 1131L. Prerequisite: CHEM 1113.

CHEM1133H Honors University Chemistry for Engineers II (Sp, Su) Develops further the topics of solution chemistry, characteristics of the various states of matter, chemical reactivity, thermochemistry, atomic structure, theories of bonding, solubility, electrochemistry, nuclear chemistry, coordination chemistry, descriptive chemistry, and the chemistry of organic and biological molecules. Students may not receive
degree credit for both CHEM 1133 and CHEM 1123. Corequisite: Drill component and CHEM 1131L. Prerequisite: CHEM 1113.

CHEM1211L Chemistry for Majors I Laboratory (Fa) Laboratory 3 hours per week. Students may not receive credit for both CHEM 1211L and CHEM 1101L. Corequisite: CHEM 1213. (Same as CHEM 1101L)

CHEM1213 Chemistry for Majors I (Fa) The first half of a two-semester course designed especially for students planning to major in chemistry or biochemistry. Students may not receive credit for both CHEM 1213 and CHEM 1103. Corequisite: CHEM 1211L and related course component drill section for CHEM 1213. Pre- or Corequisite: MATH 1203 or higher or satisfactory completion of the mathematics proficiency exam. (Same as CHEM 1103)

CHEM1221L Chemistry for Majors II Laboratory (Sp) Laboratory 3 hours per week. Students may not receive credit for both CHEM 1221L and CHEM 1121L. Corequisite: CHEM 1223. (Same as CHEM 1121L)

CHEM1223 Chemistry for Majors II (Sp) The second half of a two-semester course designed specifically for students planning to major in chemistry or biochemistry. Students may not receive credit for both CHEM 1223 and CHEM 1123. Pre- or Corequisite: MATH 2554. Corequisite: CHEM 1221L and related course component drill section for CHEM 1223. Prerequisite: CHEM 1213 and CHEM 1211L (or CHEM 1103 and CHEM 1101L). (Same as CHEM 1123)

CHEM2261L Analytical Chemistry Laboratory (Sp, Fa) Provides experience in the techniques of classical and instrumental methods of chemical separation and analysis. Primarily for students in agricultural, biological, and physical sciences. Laboratory 4 hours per week. Pre- or Corequisite: CHEM 2263. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L) or (CHEM 1073 and CHEM 1071L) and MATH 1203 or higher.

CHEM2263 Analytical Chemistry Lecture (Sp, Fa) Principles of chemical separations and analysis by classical and instrumental methods. The role of chemical equilibrium in physical and biological systems. Primarily for students in agriculture, biological, and physical sciences. Lecture 3 hours per week. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L) or (CHEM 1073 and CHEM 1071L) and MATH 1203 or higher.

CHEM2611L Organic Physiological Chemistry Laboratory (Sp, Su) Laboratory 3 hours per week. Corequisite: CHEM 2613.

CHEM2613 Organic Physiological Chemistry (Sp, Su) Survey of organic chemistry necessary for understanding of biological systems, with some related physiological chemistry. Lecture 3 hours per week. Corequisite: CHEM 2611L and related course component drill section for CHEM 2613. Prerequisite: (CHEM 1073 and CHEM 1071L) or (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

CHEM3203 Forensic Chemistry (Fa) Survey of chemistry used in criminal investigations. Topics may include detection and identification of drugs, alcohol, toxins, explosives and gun powder residue. Chemical analysis of paint, ink, paper, soil, glass and fibers. Chemical detection of blood and fingerprints. Extraction of DNA from evidence, DNA fingerprinting. Prerequisite: CHEM 3613 (recommended) or CHEM 2613.

CHEM3451L Elements of Physical Chemistry Laboratory (Fa) Techniques of physical measurements of chemical systems; error analysis and report writing. Experiments in thermochemistry, kinetics, and measurement of properties of matter using a variety of techniques. Laboratory 4 hours per week. Corequisite: CHEM 3453.

CHEM3453 Elements of Physical Chemistry (Fa) Fundamental concepts of physical chemistry primarily for B.A. Chemistry majors and pre-professional and agriculture students, presented with some recourse to calculus and with applications to life processes and biochemistry. Lecture 3 hours per week. B.A. chemistry majors must enroll in CHEM 3451L concurrently. Prerequisite: CHEM 2263, CHEM 2261L, PHYS 2033/PHYS 2031L (or PHYS 2074) and MATH 2554 (or MATH 2043).

CHEM3504 Physical Chemistry I (Fa) Introduction to atomic and molecular structure, kinetic theory of gases, and elementary statistical mechanisms. Lecture and recitation 4 hours per week. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L) and PHYS 2074.

CHEM3512L Physical Chemistry Laboratory (Sp) Experimental studies of molecular structure, thermochemistry, and chemical kinetics, and the determination of other physicochemical properties of matter. Laboratory 8 hours per week. Pre- or Corequisite: CHEM 3504.

CHEM3514 Physical Chemistry II (Sp) Chemical thermodynamics, phase equilibria, chemical equilibrium; introduction to the structure and properties of solution, liquid state and solid state; and chemical kinetics. Lecture and recitation 4 hours per week. Prerequisite: CHEM 3504.

CHEM3601L Organic Chemistry I Laboratory (Su, Fa) Laboratory exercises in organic chemistry. Meets 3 hours per week. Corequisite: CHEM 3603.

CHEM3602M Honors Organic Chemistry I Laboratory (Su, Fa) Corequisite: CHEM 3603H and related course component drill section for CHEM 3602M. (Same as CHEM 3601L)

CHEM3603 Organic Chemistry I (Su, Fa) Lecture 3 hours per week. Primarily for non-majors and B.A. Chemistry majors who do not take the CHEM 3703/3702L-3713/3712L sequence. Corequisite: CHEM 3601L and related course component drill section for CHEM 3603. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

CHEM3603H Honors Organic Chemistry I (Su, Fa) Corequisite: CHEM 3620M and related course component drill section for CHEM 3603H. Prerequisite: (CHEM 1123 and 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

CHEM3611L Organic Physiology Chemistry Laboratory (Su, Fa) Laboratory exercise in organic chemistry. Meets 3 hours per week. Corequisite: CHEM 3613.

CHEM3612M Honors Organic Chemistry II Laboratory (Sp, Su) Corequisite: CHEM 3613H and related course component drill section for CHEM 3612M. (Same as CHEM 3611L)

CHEM3613 Organic Chemistry II (Sp, Su) Lecture 3 hours per week. Primarily for non-majors and B.A. chemistry majors who do not take the CHEM 3703/3702L and 3713/3712L sequence. Corequisite: CHEM 3611L and related course component drill section for CHEM 3613. Prerequisite: (CHEM 3603 and CHEM 3601L) or (CHEM 3603H and CHEM 3602M) or (CHEM 3703 and CHEM 3702L).
CHEM3613H Honors Organic Chemistry II (Sp, Su) Corequisite: CHEM 3612M and related course component drill section for CHEM 3613H. Prerequisite: CHEM 3603H and CHEM 3602M.

CHEM3702L Organic Chemistry I Lab for Majors (Fa) Introduction to basic techniques for separation, purification, and identification of organic compounds. Lecture-discussion 1 hour, laboratory 3 hours per week. Corequisite: CHEM 3703 and related course component drill section for CHEM 3702L.

CHEM3703 Organic Chemistry I Lecture for Majors (Fa) Basic chemistry of the compounds of carbon. Primarily for B.S. and B.A. chemistry majors. Lecture 3 hours per week. Corequisite: CHEM 3702L and related course component drill section for CHEM 3703. Prerequisite: Chemistry major; (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

CHEM3712L Organic Chemistry II Lab for Majors (Sp) Continuation of CHEM 3702L and introduction to basic techniques of synthesis, isolation, and determination of structure and reactivity of organic compounds. Lecture-discussion and laboratory 8 hours per week. Corequisite: CHEM 3713 and related course component drill section for CHEM 3712L.

CHEM3713 Organic Chemistry II Lecture for Majors (Sp) Basic chemistry of the compounds of carbon. Primarily for B.S. and B.A. chemistry majors. Lecture 3 hours per week. Corequisite: CHEM 3712L and related course component drill section for CHEM 3713. Prerequisite: CHEM 3703 and CHEM 3702L.

CHEM3813 Introduction to Biochemistry (Su, Fa) Primarily for students in the agricultural, biological, and related sciences. Survey of the fundamentals of biochemistry. Credit may not be applied to the minimum hourly requirements for a B.S. major in chemistry. Lecture 3 hours per week. Prerequisite: (CHEM 3613 and CHEM 3611L) or (CHEM 3613H and CHEM 3611M) or (CHEM 3713 and CHEM 3712L) or (CHEM 2613 and CHEM 2611L).

CHEM3923H Honors Colloquium (Irregular) Covers a special topic or issue. Offered as a part of the honors program. Prerequisite: honors candidacy (may not be restricted to candidacy in chemistry). May be repeated for credit.

CHEM400V Chemistry Research (Sp, Su, Fa) (1-4) Research problems. May be repeated for credit.

CHEM4011H Honors Seminar (Sp) Research seminar for chemistry majors enrolled in the program. Enrollment is required each spring semester for honors students. Senior honors students must make one research presentation to graduate with honors. Prerequisite: Junior standing.

CHEM405V Special Topics in Chemistry (Irregular) (1-4) Potential topics include: advanced spectrophotometric methods, bioanalytical chemistry, bioinorganic chemistry, biophysical chemistry, chemical sensors, drug discovery and design, nanomaterials, pharmaceutical chemistry, process analytical chemistry, and protein folding and design. Prerequisite: Instructor consent.

CHEM4123 Advanced Inorganic Chemistry I (Fa) Reactions and properties of inorganic compounds from the standpoint of electronic structure and the periodic table. Emphasis on recent developments. Prerequisite: CHEM 3514.
CHEM5243 Electrochemical Methods of Analysis (Even years, Sp) Topics will include: diffusion, electron transfer kinetics, and reversible and irreversible electrode processes; followed by a discussion of chronoamperometry, chronocoulometry, polarography, voltammetry and chronopotentiometry. Prerequisite: CHEM 4213 and MATH 2574.

CHEM5253 Spectrochemical Methods of Analysis (Odd years, Fa) Principles and methods of modern spectroscope analysis. Optics and instrumentation necessary for spectroscopy is also discussed. Topics include atomic and molecular absorption and emission techniques in the ultraviolet, visible, and infrared spectral regions. Prerequisite: CHEM 4213.

CHEM5263 Nuclear Chemistry (Odd years, Fa) Nuclear structure and properties, natural and artificial radioactivity, radioactive decay processes, nuclear reaction and interactions of radiation with matter. Prerequisite: CHEM 3514.

CHEM5273 Cosmochemistry (Odd years, Sp) Laws of distribution of the chemical elements in nature, cosmic and terrestrial abundance of elements; origin and age of the earth, solar system, and the universe. Prerequisite: CHEM 3514.

CHEM5473 Chemical Kinetics (Sp) Theory and applications of the principles of kinetics to reactions between substances, both in the gaseous state and in solution. Prerequisite: CHEM 3514.

CHEM5513 Biochemical Evolution (Even years, Sp) Abiotic synthesis of biomolecules on Earth, the origin of cells, genetic information, origin of life on Earth and elsewhere, evolution and diversity, ecological niches, bacteria, archaea, eukaryotes, novel metabolic reshaping of the environment, life being reshaped by the environment, molecular data and evolution. Prerequisite: CHEM 5813.

CHEM5603 Physical Organic Chemistry (Fa) Introduction to the theoretical interpretation of reactivity, reaction mechanisms, and molecular structure of organic compounds. Application of theories of electronic structure; emphasis on recent developments. Prerequisite: CHEM 3514 and CHEM 3713 and CHEM 3712L.

CHEM5633 Organic Reactions (Fa) The more important types of organic reactions and their applications to various classes of compounds. Prerequisite: CHEM 3514 and CHEM 3713 and CHEM 3712L.

CHEM5733 Methods of Organic Analysis (Fa) Interpretation of physical measurements of organic compounds in terms of molecular structure. Emphasis on spectroscopic methods (infrared, ultraviolet, magnet resonance, and mass spectra). Prerequisite: CHEM 3712L and CHEM 3713 (or CHEM 3613 and CHEM 3611L) and CHEM 3514 (or CHEM 3453 and CHEM 3451L).

CHEM5813 Biochemistry I (Fa) The first of a two-course series covering biochemistry for graduate students in biology, agriculture, and chemistry. Topics covered include protein structure and function, enzyme kinetics, enzyme mechanisms, and carbohydrate metabolism. Prerequisite: CHEM 3712L and CHEM 3713 (or CHEM 3813 and CHEM 3611L) and CHEM 3514 (or CHEM 3453 and CHEM 3451L).

CHEM5843 Biochemistry II (Sp) A continuation of CHEM 5813 covering topics including biological membranes and bioenergetics, photosynthesis, lipids and lipid metabolism, nucleic acid structure, structure and synthesis, and molecular biology. Prerequisite: CHEM 5813.

CHEM600V Master's Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

CHEM6011 Chemistry Seminar (Sp, Fa) Members of the faculty, graduate and advanced students meet weekly for discussion of current chemical research. Weekly seminar sections are offered for the Departmental seminar and for divisional seminars in biochemistry and in analytical, inorganic, nuclear, organic, and physical chemistry. Chemistry graduate students register for the Departmental seminar section and one of the divisional seminar sections each semester they are in residence. Seminar credit does not count toward the minimum hourly requirements for any chemistry graduate degree. Prerequisite: CHEM 3514 and CHEM 3713 and CHEM 3712L and senior or graduate standing. May be repeated for up to 1 hours of degree credit.

CHEM619V Special Topics in Inorganic Chemistry (Irregular) (1-3) Topics which have been covered in the past include: technique and theory of x-ray diffraction, electronic structure of transition metal complexes, inorganic reaction mechanisms, and physical methods in inorganic chemistry. May be repeated for credit.

CHEM6283 Mass Spectrometry (Odd years, Sp) This course is devoted to the fundamental principles and applications of analytical mass spectrometry. Interactions of ions with magnetic and electric fields and the implications with respect to mass spectrometer design are considered, as are the various types of mass spectrometer sources. Representative applications of mass spectrometry in chemical analysis are also discussed. Prerequisite: Graduate standing.

CHEM629V Special Topics in Analytical Chemistry (Irregular) (1-3) Topics that have been presented in the past include: advanced kinetics, solution chemistry, molecular spectra, nuclear magnetic resonance spectroscopy, and methods of theoretical chemistry. May be repeated for credit.

CHEM6333 Chemistry of Organic Natural Products (Irregular) Selected topics concerned with structure elucidation and synthesis of such compounds as alkaloids, antibiotics, bacterial metabolites, plant pigments, steroids, terpenoids, etc. Prerequisite: CHEM 5603 and CHEM 5633.

CHEM6434 Organometallic Chemistry (Irregular) Theories and principles of organometallic chemistry. Concepts include bonding, stereochemistry, structure and reactivity, stereochemical principles, conformational, steric and stereoelectronic effects. Transition metal catalysis of organic reactions will also be described. Prerequisite: CHEM 3504, and CHEM 3514, and CHEM 3703, and CHEM 3713 or permission of instructor.

CHEM6673 Organic Reaction Mechanisms (Odd years, Fa) A detailed description of the fundamental reactions and mechanisms of organic chemistry. Prerequisite: CHEM 5633.

CHEM669V Special Topics in Organic Chemistry (Irregular) (1-3) Topics which have been presented in the past include heterogeneous catalysis, isotope effect studies of organic reaction mechanisms, organometallic
CHEM6823 Physical Biochemistry (Even years, Fa) Physical chemistry of proteins, nucleic acids, and biological membranes. Ultracentrifugation, absorption and fluorescent spectrophotometry, nuclear magnetic resonance spectroscopy, x-ray diffraction, and other techniques. Prerequisite: (CHEM 3514 and CHEM 5813) or graduate standing.

CHEM6863 Enzymes (Odd years, Fa) Isolation, characterization, and general chemical and biochemical properties of enzymes. Kinetics, mechanisms, and control of enzyme reactions. Prerequisite: (CHEM 5813 and CHEM 5843) or graduate standing.

CHEM6873 Molecular Biochemistry (Odd years, Sp) Nucleic acid chemistry in vitro and in vivo, synthesis of DNA and RNA, genetic diseases, cancer biochemistry and genetic engineering. Prerequisite: CHEM 5813 and CHEM 5843.

CHEM6883 Bioenergetics and Biomembranes (Even years, Sp) Cellular energy metabolism, photosynthesis, membrane transport, properties of membrane proteins, and the application of thermodynamics to biological systems. Prerequisite: CHEM 5813 and CHEM 5843.

CHEM700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Graduate standing. May be repeated for up to 18 hours of degree credit.

Chinese (CHIN)

CHIN1003 Elementary Chinese I (Fa)

CHIN1013 Elementary Chinese II (Sp) Elementary courses stress correct pronunciation, Aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

CHIN2003 Intermediate Chinese I (Fa) Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

CHIN2013 Intermediate Chinese II (Sp) Continued development of basic speaking comprehension and writing skills and intensive development of reading skills.

CHIN3003 Advanced Chinese (Fa) Continues to develop speaking, listening, reading and writing skills and presents more complex forms and structures of the language as well as additional characters. Prerequisite: CHIN 2013

CHIN3033 Conversation (Sp) Guided conversation practice for the post-intermediate student. Prerequisite: CHIN 2013 or equivalent.

CHIN3103 Chinese Culture and Film (Fa) A course based on film and readings designed to give insight into Chinese civilization and culture with special emphasis on ethnicity, modern history, contemporary society, education, language, customs, and visual arts. This course is taught in English. May be repeated for up to 6 hours of degree credit.

CHIN3983 Special Studies (Irregular) May be offered in subject not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

CHIN4313 Business Culture & Society in China (Fa) Introduction of key principles, customs, and behaviors in Chinese society to help students understand the Chinese business context. Discusses the implications for economic development, intercultural management and international business conduct through case studies. This course is taught in English. Prerequisite: Chinese proficiency or instructor permission.

CHIN4333 Business Chinese Language in Speaking and Writing (Sp) Introduction of Chinese vocabulary, formats, and expressions in business environments, such as company structures, management, banking and accounting, as well as how to read and write contracts, letters, and other business documents. Prerequisite: CHIN 3003 or equivalent Chinese proficiency.

Community Health Promotion (CHLP)

CHLP1103 Personal Health and Safety (Sp, Fa) Health and safety problems with emphasis on the promotion of individual health and safety.

CHLP1203 Prevention of Drug Abuse (Fa) Provides an overview of drugs of use and abuse in society. Also assists the student in evaluating drug abuse prevention approaches for public, private, or community settings.

CHLP1303 Introduction to Human Sexuality (Sp) An examination of human sexuality with a critical analysis of male and female attitudes and values affecting self-understanding and gender identity.

CHLP2101 Special Topics (Sp, Fa) Examination and application of health promotion concepts based on individualized health hazard appraisal. (Not to replace content courses leading to teacher certification in health education). May be repeated for up to 5 hours of degree credit.

CHLP2613 Foundations of Community Health (Sp) History and philosophy of health education discipline; organization and administration of health education programs; curriculum development and evaluation of educational efforts; and student observation in school and non-school settings.

CHLP2662 Terminology for the Health Professions (Sp, Fa) Emphasis is on word roots and combined forms of words describing various facets of health and disease. Descriptive definitions with application of practical significance included for the health professional.

CHLP310V Seminar (Irregular) (1-3) Synthesis and critical analysis of current literature in the area of community health promotion. May be repeated for up to 12 hours of degree credit.

CHLP3633 First Responder-First Aid (Sp, Su, Fa) Prepares persons to administer cardiopulmonary resuscitation and emergency aid to victims of serious bleeding, poisoning, shock, fracture, and other forms of injury until emergency medical services personnel arrive at the scene.

CHLP3643 Community Health Planning and Promotion (Even years, Fa) Emphasis on community analysis; defining and verifying community health problems; establishing program goals; defining and assessing health behaviors; formulating educational goals, objectives, methods, and activities; promoting programs; and designing program evaluation.

CHLP3663 Principles and Practice of Health Education (Irregular) Understanding and practicing the principles of sound mental health are key elements in achieving high level wellness. This course encourages students’ exploration of the mental dimensions of holistic health and presents strategies to achieve a more healthful balance in life.

CHLP3683 Health Care Consumerism (Irregular) Study of products and services provided by the health care delivery system; an analysis of those components lacking scientific credibility, yet promoted for the maintenance or restoration of health status.
CHLP3683H Honors Health Care Consumerism (Even years, Sp) Study of products and services provided by the health care delivery system; an analysis of those components lacking scientific credibility, yet promoted for the maintenance or restoration of health status.

CHLP4043 Internship in Community Health (Sp, Su, Fa) Designed to provide the student with an extended work experience in a selected community health program. The student works under college supervision with a professional in the health care delivery field. Prerequisite: Junior standing and HLSC or CHLP major. May be repeated for up to 6 hours of degree credit.

CHLP410V Global Health: Issues, Concepts and Perspectives (Su) (3-6) Emphasis placed on needs assessment, development, implementation, evaluation, and sustainability of public health initiatives designed to improve the health and well-being of community members at all levels of the health continuum; topics of focus will include determinants of health, mental health, environmental health, nutrition, maternal and child health, sexual health, injuries and chronic and infectious diseases. Prerequisite: Approval from Study Abroad to participate in the Community Development Service Learning Program.

CHLP4553 Environmental Health (Odd years, Fa) This course explores current environmental problems and issues related to public health. Topics include health risk assessment, management, and communication; sources of pollution, environmental and health effects of war, food safety and other environmental health topics. Also discussed are the roles of the environment in human health and disease, the basic principles of environmental health practice, and major environmental health legislation and policy. Format for course will include lecture web based seminars, and small group seminars.

CHLP4603 Application of Health Behavior Theories in Health Education (Odd years, Sp) Understanding the reasons for health behavior is vital for the health education professional. It is necessary to assist in the development of services and programs that are likely to move an individual from an unhealthy behavior to one that is more appropriate for a healthy lifestyle. This course surveys the major health behavior theories used in health education and applications of the theories will be used in the class.

CHLP4613 Principles of Epidemiology (Fa) Distribution and patterns of disease or physiological conditions within populations; an examination of the nature of epidemiological research. Prerequisite: Senior standing and BIOL 2013 and BIOL 2011L. May be repeated for up to 6 hours of degree credit.

CHLP4623 Human Diseases (Fa) (Formerly HLSC 3623) An examination of the variety, behavior, distribution, and management of both infectious and noninfectious diseases in human populations. Prerequisite: BIOL 1603 (or BIOL 1543 and BIOL 1541L).

CHLP4643 Multicultural Health (Even years, Sp) Through lecture, discussion, simulations, and case studies, students will develop an appreciation for the cultural traditions and practices of different groups. The importance and implications of these traditions on health outcomes and health status will be examined. Students will also develop skills of cultural competence that are essential for public health practitioners today. Prerequisite: Senior standing or consent.

CHLP5353 Health Counseling (Odd years, Fa) A review of the role and function of the health counselor including a focus on problem solving approaches for coping with daily problems of living, decision making, and life style planning.

CHLP5533 Models and Theories of Health Behavior (Fa) This course will provide a basic foundation in the social and behavioral sciences relevant to public health. Students will learn the role of social and behavioral determinants in the health of individuals and of populations. Then, students will learn models and theories of health behavior, both generally and specifically. Generally, the student will learn how to identify, analyze, and use theoretical constructs and principles with particular attention to the use of theory in professional public health practice. Specifically, the student will learn the constructs and principles of several theories commonly used in public health behavior research and intervention design. The course will cover the four major individual that focus on intrapersonal factors (i.e., Health Belief Model, Transtheoretical Model, Theory of Reasoned Action/Planned Behavior, and Social Cognitive Theory) as well as several social, organizational, and community theories that are beyond the individual level.

CHLP5543 Contemporary Issues in Human Sexuality (Irregular) Indepth analysis of the social, biological, and behavioral factors associated with the development of one’s sexuality.

CHLP5563 Public Health: Practices and Planning (Sp) Acquaints the student with the structure, functions, and current problems in public health and with the role of education in public health. Prevention and control practices and planning will be emphasized.

CHLP5573 Principles of Health Education (Fa) Current trends, basic issues, controversial issues, and fundamental principles of health education.

CHLP5633 Health Services Administration (Irregular) Emphasis is on an examination of administrative factors related to health services. Administrative and professional authority, boards, consumers, delivery of services, federal role, and cost containment will also be addressed.

CHLP5643 Multicultural Health (Even years, Sp) Through lecture, discussion, simulations, and case studies, students will develop an appreciation for the cultural traditions and practices of different groups. The importance and implications of these traditions on health outcomes and health status will be examined. Particular attention will be paid to the role of the public health educator in mediating the impact of health disparities, including advocacy. Students will develop skills of cultural competence that are essential for public health practitioners today. Prerequisite: Graduate standing or consent.

CHLP574V Internship (Irregular) (1-6) May be repeated for up to 6 hours of degree credit.

CHLP589V Independent Research (Sp, Su, Fa) (1-6) Development, implementation, and completion of graduate research project. Prerequisite: M.S. degree in Community Health Promotion and HHPR 5353 and ESRM 5393.

CHLP600V Master's Thesis (Sp, Su, Fa) (1-6) Development, implementation, and completion of graduate research project. Prerequisite: M.S. degree in Community Health Promotion and HHPR 5353 and ESRM 5393.

CHLP600V Master's Thesis (Sp, Su, Fa) (1-6) Provides students with an opportunity to pursue special study of education problems. May be repeated for up to 6 hours of degree credit.

CHLP6333 Health Behavior Research (Even years, Fa) A review of human behavior and its relationship to health and wellbeing. Focuses on contemporary health behavior research and instrumentation.
CIED1002 Introduction to Education (Sp, Fa) Integrates psychological, sociological, and philosophical foundations of education with concurrent involvement in field experiences. Encourages prospective teachers to become reflective practitioners by emphasizing organization of school systems, planning and implementation of effective classroom environments, development of teaching styles, and new directions in education. Corequisite: CIED 1011.

CIED1003 Introduction to Technology in Education (Sp, Su, Fa) A study of computer technology as it relates to teacher education. This course introduces students interested in teacher education to the knowledge and skills required to demonstrate their proficiency in technology and learning.

CIED1011 Introduction to Education: Practicum (Sp, Fa) A 24-hour early field experience designed to give prospective teachers opportunities to observe and participate in a variety of school settings. Includes a variety of field-based activities to encourage personal reflection. Special focus upon organization of school systems, effective classroom environments, teaching styles and new directions in education. Corequisite: CIED 1002. (Same as CATE 1001, PHED 1003)

CIED3001 Early Childhood Education Practicum (Sp, Su, Fa) This practicum course provides opportunities for students to observe and practice providing instruction and guidance in preschool settings. Corequisite: CIED 3003.

CIED3003 Early Childhood Education (Sp, Su) The study of kindergarten and preschool programs: social context of early childhood education, purposes, research basis, curriculum development, methods, and materials. Corequisite: CIED 3001. Prerequisite: CIED 1002 and CIED 1011.

CIED3023 Survey of Exceptionalities (Sp, Su, Fa) A survey of the characteristics of students with exceptional needs. Reviews the definitions of exceptionalities, learning and behavior characteristics of individuals with exceptionalities and the legal basis for the education of persons with exceptionalities in both elementary and secondary schools. Prerequisite: CIED 1002 and CIED 1011; or MUED 2012; or CATE 1001; or AGED 1123 and 1031; or HESC 1501 or PSYC 2003.

CIED3033 Classroom Learning Theory (Sp, Su, Fa) A survey of the major theories of learning with special emphasis on human learning and implications for education. Prerequisite: CIED 1002 and CIED 1011; or MUED 2012; or PHED 1003; or CATE 1001; or AGED 1123 and 1031; and PSYC 2003.

CIED3043 Introduction to Middle Level Principles and Methods (Fa) A comprehensive overview of the key components, principles, methodologies, and research foundations to middle level education. Reflective activities and site-based field experience are integrated with course content to provide continuity between theory and practice. Portfolio expectations will be a primary means of course evaluation. Prerequisite: CIED 3053.

CIED3053 The Emerging Adolescent (Sp) This course is a study of the developmental characteristics (social, emotional, physical, moral, and intellectual) of early adolescents (ages 10-15 years). The implications of these changes for motivation, instruction, learning, and classroom management in the classroom are emphasized. Course has field component. Pre- or corequisite: CIED 3033. Prerequisite: CIED 1011 or CIED 1002, or CATE 1001, and PSYC 2003.

CIED3063 Literacy Strategies for Middle Level Learners (Sp) This course is designed to examine theories and practice regarding literacy development and assessment grounded in the knowledge of the characteristics of the middle level learner. A ten-hour field experience is required. Corequisite: CIED 3073. Prerequisite: CIED 3043.

CIED3063H Honors Literacy Strategies for Middle Level Learners (Sp) This course is designed to examine theories and practice regarding literacy development and assessment grounded in the knowledge of the characteristics of the middle level learner. A ten-hour field experience is required. Corequisite: CIED 3073 and honors candidacy. Prerequisite: CIED 3043.

CIED3073 Early Adolescent Literature (Sp) A study of rationales and strategies for incorporating early adolescent literature across the middle level curriculum. Includes an examination of genres and selected texts from each. Corequisite: CIED 3063. Prerequisite: CIED 3043.

CIED3073H Honors Early Adolescent Literature (Sp) A study of rationales and strategies for incorporating early adolescent literature across the middle level curriculum. Includes an examination of genres and selected texts from each. Corequisite: CIED 3063. Prerequisite: CIED 3043 and honors candidacy.

CIED3093 Essentials of Literacy (Sp, Fa) An undergraduate foundational course focusing on literacy development and processes of children from the emergent to developmental stages, materials and effective research-based teaching strategies for classroom practice. Not for credit in Childhood Education (CHED) degree program.

CIED3103 Children’s Literature (Fa) A survey of children’s literary works, authors, and illustrators with emphasis on the preschool and primary grade literature.
CIED3103H Honors Children’s Literature (Fa) A survey of children’s literary works, authors, and illustrators with emphasis on the preschool and primary grade literature. Corequisite: CIED 3113.

CIED3113 Emergent and Developmental Literacy (Fa) This course focuses on theories of children’s emerging literacy and on the continuing development of literacy abilities in pre-kindergarten and early elementary years. Prerequisite: PSYC 2003, ENGL 1013, ENGL 1023, and CIED 3263.

CIED3113H Honors Emergent and Developmental Literacy (Fa) This course focuses on theories of children’s emerging literacy and on the continuing development of literacy abilities in pre-kindergarten and early elementary years. Prerequisite: PSYC 2003, ENGL 1013, ENGL 1023, and CIED 3263.

CIED3123 Mathematics Methods (Sp, Su) An examination of the content of elementary mathematics courses. Special emphasis given to methods of teaching the content as well as enrichment materials. Prerequisite: MATH 1203, MATH 2213 and MATH 2223.

CIED3133 Integrated Social Studies (Sp) Focuses on the methodology of facilitating pre-K and elementary children’s development in language arts and social studies. Integrates the curriculum and teaching strategies in language arts and social studies. Prerequisite: PLSC 2003 and (HIST 2003 or HIST 2013) or (HIST 2003 or HIST 2013) and GEOG 1123 or higher.

CIED3143 Teaching Science in the Elementary Grades (Sp, Fa) Study of the methods and materials in teaching science. Classroom applications of teaching strategies with analysis of teacher effectiveness in seminar settings are emphasized.

CIED3263 Language Development for the Educator (Sp, Fa) Nature of speech-language development in preschool and school-aged children, including cognitive prerequisites, social contexts, and relationships between language acquisition and literacy. Language differences (dialectal, bilingual) and speech-language disorders are explored. The role of the educator in facilitating language acquisition is emphasized.

CIED4003 Elementary Seminar (Sp) This course is designed to synthesize the foundational content presented in the Bachelor of Science in Education, Elementary Education program. It focuses on refining of generalized knowledge to accommodate specialized content relevant to young children.

CIED4013 Capstone Course for Foreign Language Licensure (Sp) This course is designed to identify and provide evidence of content language specific proficiencies in the four skills of reading, writing, listening, and speaking a foreign language.

CIED4023 Teaching in Inclusive Secondary Settings (Su) This course is designed to prepare pre-service teachers to teach in inclusive classroom settings at the secondary level. Course content will focus on the ways in which exceptionality, specifically focused on high-incidence disabilities and culture, specifically focused on English language learners mediate the learning experiences of secondary level students.

CIED4101 Practicum (Sp) Practicum. Corequisite: CIED 4113

CIED4101H Honors Practicum (Sp) Practicum. Corequisite: CIED 4113.

CIED4113 Integrated Communication Skills (Su) Focuses on the methodology of facilitating pre-kindergarten, kindergarten, and early elementary children’s literacy development. Emphasis is on the integration of the communication skills of reading, writing, speaking, and listening across the curriculum. Prerequisite: CIED 3103 and CIED 3113.

CIED4113H Honors Integrated Communication Skills (Su) Focuses on the methodology of facilitating pre-kindergarten, kindergarten, and early elementary children’s literacy development. Emphasis is on the integration of the communication skills of reading, writing, speaking, and listening across the curriculum. Prerequisite: CIED 3103 and CIED 3113.

CIED4123 Literacy Assessment (Sp, Fa) An undergraduate course focusing on literacy assessment and intervention for prospective classroom teachers. Participants become familiar with assessment procedures and instruments for identifying student strengths and weaknesses in literacy, determining effective intervention strategies for literacy improvement, and principles of reporting assessment and intervention outcomes. Prerequisite: CIED 3093.

CIED4131 Practicum in Secondary Education (Sp, Su, Fa) This practicum is a requirement for entry into the Secondary Master of Arts (M.A.T.) in teaching program. Students will be involved in documented experiences with children for a minimum of 60 hours with at least 20 of them being in schools with children in grades 7 through 12.

CIED4133 Measurement, Research, and Readings (Su) This course is designed to provide an introduction to educational assessment, research methods, and what research has to say about trends and topics in elementary education.

CIED4143 Curriculum Design (Su) A course in the design and adaptation of curriculum for students in regular, elementary classrooms. Theoretical bases and curriculum models will be reviewed.

CIED4153 Classroom Management (Fa) This course focuses on a number of different management techniques for Pre-K through upper elementary grades that can be used in general education settings.

CIED4163 Senior Project (Su) This course is designed to provide students with the research skills necessary to complete their senior project.

CIED4173 Student Teaching (Sp, Fa) This course is a field-based practicum experience.

CIED4323 Instructional Design for Teachers (Fa) Study of the design of instruction for students with exceptionalities. Emphasis is placed on synthesizing a broad range of existing and emerging perspectives and methods of instruction and applying them to practical classroom practice. Prerequisite: CIED 3023.

CIED4403 Understanding Cultures in the Classroom (Su, Fa) This course provides pre-and in-service teachers knowledge and skills necessary for educating ethnically and linguistically diverse classrooms. Students have the opportunity to understand positive relationships while removing stereotypes and prejudices. It addresses issues for social justice education through understanding ways that children learn and communicate in their homes and communities.

CIED4413 Acquiring a Second Language (Fa) The course gives an introduction to the basics in research and learning theories involved in the acquisition of second languages and cultures, particularly of English.

CIED4423 Teaching a Second Language (Sp) This course gives an introduction to different methods used to teach individuals a second language, with an emphasis on teaching English as a second language.
CIED4433 The Moral Mind in Action (Fa) The Moral Mind in Action explores how people reason through moral dilemmas and prepares students to more effectively recognize and resolve moral problems. Best practices of teachers and administrators of K-16 character education programs are discussed.

CIED4443 Moral Courage (Sp) Moral Courage explores the factors that support translating moral thinking into moral action. This course draws from the field of positive psychology to guide students as they leverage existing strengths and develop new strategies for acting with moral courage in their personal and professional lives. Best practices of teachers and administrators of K-16 character education programs are discussed.

CIED4513 Teaching Children with Mild Disabilities (Sp, Fa) This course is a study of the characteristics of young students with disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

CIED4513H Honors Teaching Children with Mild Disabilities (Irregular) This course is a study of the characteristics of young students with disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

CIED4523 Teaching Children with Severe Disabilities (Sp, Su) This course is a study of the characteristics of young students with severe disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

CIED4523H Honors Teaching Children with Severe Disabilities (Sp, Su) This course is a study of the characteristics of young students with severe disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

CIED5003 Childhood Seminar (Sp) This course is designed to synthesize the foundational content presented in the Master of Arts in Teaching core courses. It focuses on refinement of the generalized knowledge to accommodate specialized content children. Professional attitudes, knowledge and skills related to early childhood education are addressed. Prerequisite: Admission to the CHED M.A.T.

CIED5012 Measurement, Research, and Statistical Concepts for Teachers (Su) An introduction to constructing, analyzing, and interpreting tests, types of research and the research process, qualitative and quantitative techniques for assessment, and descriptive and inferential statistics.

CIED5013 Measurement, Research and Statistical Concepts in the Schools (Su) An introduction to constructing, analyzing, and interpreting tests; types of research and the research process; qualitative and quantitative techniques for assessment; and descriptive and inferential statistics. Prerequisite: Admission to graduate school.

CIED5022 Classroom Management Concepts (Fa) A number of different classroom management techniques are studied. It is assumed that a teacher must possess a wide range of knowledge and skills to be an effective classroom manager. Prerequisite: Admission to the M.A.T. program.

CIED5032 Curriculum Design Concepts for Teachers (Sp) The design and adaptation of curriculum for students in regular and special classrooms. Theoretical bases and curriculum models are reviewed. Concurrent clinical experiences in each area of emphasis are included. Prerequisite: Admission to the M.A.T. program.

CIED5043 Content Area Reading in Elementary Grades (Su, Fa) This course teaches the integration of reading and writing in the content areas. Reading and writing as integrated strands of the language process is presented in the context of instructional principles and suggested teaching practices. A solid research base is emphasized while keeping the focus on practical application. Prerequisite: Admission to the M.A.T. program.

CIED5052 Seminar: Multicultural Issues (Su) This seminar provides an introduction to the major concepts and issues related to multicultural education. The ways in which race, ethnicity, class, gender, and exceptionality influence students' behavior are discussed. Prerequisite: Admission to the M.A.T. program.

CIED5053 Multicultural Issues in Elementary Education (Su) This course provides an introduction to the major concepts and issues related to multicultural education in elementary classrooms. The ways in which race, class, gender and exceptionality influence students' behavior are discussed. Prerequisite: Admission to grad. school.

CIED5062 Literacies Across the Curriculum (Sp) This course teaches the integration of reading, writing, and new literacies in the content areas. Theory and strategy are presented as integrated strands of the language process as presented in the context of instructional principles and suggested teaching practices. A solid research base is emphasized while keeping the focus on practical application. Prerequisite: Admission in Secondary M.A.T. Program.

CIED5073 Case Study in Childhood Education (Sp) Provides the students with experience in conducting case studies related to childhood education. In addition, students gain knowledge regarding practices used in ethnographic research. Prerequisite: Admission to M.A.T. program.

CIED508V Childhood Education Cohort Teaching Internship (Sp, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

CIED5093 Methods of Instruction for Middle Level I (Su) A study of methods and materials in the special content areas (math, science, English/language arts, and social studies). The planning of instruction, microteaching, and the development of middle school instructional materials are included. Prerequisite: Admission to M.A.T. program.

CIED5103 Advanced Middle Level Principles (Sp) An in-depth examination of recent research on the major issues, practices, and policies for middle level education. Emphasis is on analysis of cutting edge issues germane to the life, education, and welfare of the early adolescent via the integration of theory and practice. Prerequisite: Admission to Masters of Arts in Teaching program.

CIED5113 Reading in Middle Schools (Sp, Su, Fa) An overview of methods and materials for teaching reading to early adolescents. Reflective activities and site-based field experiences are integrated with course content to provide continuity between theory and practice. Portfolio expectations will be a primary means of course evaluation. Prerequisite: Admission to the middle level education program and CIED 3113.

CIED5123 Writing Process Across the Curriculum (Middle Level) (Sp) This course will provide an overview of the research, and methods for incorporating writing across all curriculum. Writing as a process will be
emphasized. Reflective activities and site-based field experience will be integrated into the course content. Prerequisite: Admission to M.A.T. Program.

CIED5132 Research in Middle Level Curriculum and Instruction (Fa)
An introduction to inquiry and research in middle level curriculum and instruction. It examines the principles, strategies, and techniques of research, especially qualitative inquiry. Practicum in educational research and evaluation is done as part of the class. Prerequisite: Admission to the MAT program.

CIED5143 Internship: Middle Level (Sp, Su, Fa) The internship for middle level education is an extended field experience in which a pre-service teacher integrates knowledge and skills developed in education classes with practice in the field. Prerequisite: Admission to the M.A.T. program.

CIED5162 Applied Practicum (Fa) Provides laboratory experiences for RDNG 5123 (Literacy Assessment) and RDNG 113 (Reading in Early Childhood Education). Corequisite: CIED 5183 and CIED 5173. Prerequisite: Admission to the M.A.T. program.

CIED5173 Literacy Assessment and Intervention (Su, Fa) Focuses on assessment of young children’s literacy skills. Techniques discussed include informal observation, miscue analysis, and portfolio assessment. Prerequisite: Admission to graduate school.

CIED5183 Readings in Early Childhood Education (Fa) Will continue to develop understandings of classics and will explore the impact these have had on the most recent issues in early childhood education. Prerequisite: Admission to the CHED M.A.T.

CIED5193 Methods of Instruction for Middle School II (Fa) Second special methods course for teaching at the middle level. Emphasizes further refinement of teaching skills and methods; the integration of the sciences, mathematics, and technology; science, technology, and society (STS) issues; and the integration of social studies and English language arts. Prerequisite: CIED 5092 and admission to the M.A.T. program.

CIED5203 Problem-Based Mathematics (Irregular) This graduate level course focuses on sharing, modeling and practicing strategies to support the meaningful integration of science, technology, engineering and mathematics (STEM) with the emphasis on mathematics in the K-4 classroom. A strong foundation for integrating the STEM disciplines through a problems-based approach within the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to appropriate and effective classroom practice. Prerequisite: CIED 3123 (Mathematical Methods).

CIED5213 Teaching Problem-Based Science in the Elementary Grades (Sp) This graduate level course focuses on sharing, modeling and practicing strategies to support the meaningful integration of science, technology, engineering and mathematics (STEM) with the emphasis on science in the K-4 classroom. A strong foundation for integrating the STEM disciplines through a problems-based approach within the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to appropriate and effective classroom practice. Prerequisite: Successful completion of CIED 3143 (Teaching Science) and admission to the M.A.T. program or enrollment in the M. Ed. program.

CIED5223 Issues and Principles of Secondary Education (Su) This course provides an introduction to the Secondary Education M.A.T. program. It provides the student with information about foundation issues in education, including history and philosophy of American Education, current trends and issues in education, psychological and social theories of education, characteristics of learners, and learning processes. Prerequisite: Admission to M.A.T. degree program.

CIED5232 Interdisciplinary Studies (Sp, Su, Fa) Introduction to the nature of interdisciplinary study: curricular content, course planning (topics and themes), instructional strategies, and evaluation and assessment. Prerequisite: Admission to the M.A.T. program.

CIED5243 Special Methods of Instruction I (Su) Study of the methods and materials in the special content areas. Includes philosophical, cognitive, and psychological dimensions of teaching the content area. The planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program.

CIED5253 Special Methods of Instruction II (Fa) Study of the methods and materials in the special content areas. Classroom applications of teaching strategies with analysis of teacher effectiveness in seminar settings. Prerequisite: Admission to the M.A.T. program.

CIED5263 Special Methods of Instruction III (Sp) Study of the methods and materials in the special content areas. The focus is on student-centered and interdisciplinary teaching strategies. Extended content units are developed and implemented in the partnership school setting. Prerequisite: Admission to the M.A.T. Program.

CIED5263 Measurement and Evaluation (Sp, Su, Fa) A study of measurement, testing, and evaluative procedures including types of tests, abuses of tests, test construction, scoring, analysis and interpretation, statistical methods, and alternative evaluation and assessment techniques. Prerequisite: Admission to the M.A.T. program.

CIED5273 Research in Curriculum and Instruction (Sp, Su, Fa) An introduction to inquiry and research in curriculum and instruction. It examines the principles, strategies, and techniques of research, especially qualitative inquiry. Qualitative method in assessment and evaluation are considered. Practicum in educational research and evaluation is done as part of the class. Prerequisite: Admission to the M.A.T. program.

CIED528V Secondary Cohort Teaching Internship (Irregular) (1-6) May be repeated for up to 6 hours of degree credit.

CIED5293 Special Methods, Interdisciplinary Section (Sp) The third and final part of the middle level special methods course. Provides interns with the knowledge, dispositions, and skills for developing an interdisciplinary course of study in conjunction with the members of their interdisciplinary team. Prerequisite: CIED 5092 and CIED 5913 and admission to M.A.T. program.

CIED5303 Adolescence and Learning (Sp) Study of the developmental characteristics (physical, emotional, social and intellectual) of early and late adolescence (ages 10-18; grades 5 to 12). The progression from early to late adolescence and the implications this evolution has for learning, motivation, instruction and classroom practices are emphasized. Prerequisite: PSYC 2003.

CIED532V Practicum in Special Education (Irregular) (1-6) Supervised field experiences in special education programs, schools, institutions, and other facilities for exceptional children.

CIED5343 Analysis of Behavior for Teachers (Sp) An advanced course in managing behaviors in students with exceptionalities. Students are provided with experiences in applying theoretical bases of classroom management through identifying, assessing graphing, and analyzing...
 behavioral data and implementing management plans. Ethical issues in
the use of functional analysis are addressed.

CIED5353 Teaching Students with Diverse Needs in Middle Education
Settings (Irregular) To provide future scholar-practitioners with a
knowledge base concerning the issues involved in the successful
instruction of persons with special learning needs during middle school
years.

CIED5393 Introduction to Linguistics (Fa) This course is an introduction
to human language. The goal is to understand what it means to speak
a language, including an introduction to phonetics and phonology
(specifically the sound system of American English), morphology (the
rules of English at the word level), syntax (rules that govern sentence
level language), semantics (meanings of words) and sociolinguistics (or
the study of language use in its social context).

CIED5403 Early Childhood Education: Rationale andCurriculum
(Irregular) Rationale and curriculum of an early childhood education
program, with special attention given curricular frameworks and
professional organization policies.

CIED5423 Curriculum Reconstruction (Sp, Su, Fa) Changes in curriculum
development and design as related to changing social/economic/political
arenas. Theories of curriculum development, implementation and
evaluation are researched.

CIED5433 Methods and Materials for Teaching Children’s and
Adolescent Literature (Irregular) Issues and trends in children’s literature.
Contemporary works are evaluated and reviewed based on changing
social political conditions. Multicultural approach to children’s literature is
emphasized. Prerequisite: Undergraduate course in children’s literature.

CIED5453 Evaluation Techniques (Irregular) Evaluation of learning
using traditional means of assessment as well as alternative or authentic
assessment techniques.

CIED5483 Teaching Mathematics (Irregular) Content, methods, and
materials for teaching multiple strands of elementary school mathematics.
Emphasis on principles and procedures of a conceptual and integrated
approach to learning mathematics. Prerequisite: Undergrad coursework in
teaching elementary or early childhood mathematics.

CIED5493 Teaching Social Studies (Irregular) Purpose, content,
psychology, materials, and methods for teaching the social sciences
in the elementary school. Emphasis on principles and procedures for
combining the social studies with other areas of the curriculum in broad
unit instruction. Prerequisite: Undergraduate coursework in teaching
elementary or early childhood social studies.

CIED5503 Teaching Science (Sp, Su) The influence of science on the
community, on the home, and the child. Use of science in the living and
learning of the child at school.

CIED5513 Sound System of American English (Fa) This course will study
the structure and development of American English (AE). Topics include:
1) the structure/systems of American English pronunciation, 2) vowels, 3)
consonant system (including such features as minimal pairs, 4) prosody,
intonation, rhythm, and stress, and 5) regionalism and social varieties,
and 6) pedagogical approaches to teaching the features of American
English.

CIED5533 Teaching Language Arts (Sp) The place of the language
arts in the elementary curriculum. Exploration of materials, content,
practices, and methods, used in reading, speaking, listening, and writing
experiences.

CIED5543 Structures of American English (Sp, Su) This course
provides an introduction to the grammars of English, including (but
not restricted to) traditional, structural, and transformational-generative
(universal grammar). It includes approaches to the teaching of all types of
grammars.

CIED5563 Teaching Internship/Action Research (Irregular) During
this course, Master’s candidates will be provided with classroom
time to prepare to teach and then will be assigned to a classroom or
classrooms. During this time the candidates will have an opportunity
(under supervision) to observe, to teach and to participate in classroom
activities. Additionally, candidates will research some area of their own
pedagogy relevant to the experience.

CIED5573 Foundations of Literacy (Sp, Su, Fa) Teaching of reading to
children; techniques, research, and modern practices.

CIED5583 Correlates of Reading Process (Irregular) The developmental
program is emphasized through a student of the reading process.
Learning theory and research are related to reading instruction and
materials through the development and application of evaluative criteria
based on an understanding of reading process. Prerequisite: CIED 5573.

CIED5593 Advance Diagnosis and Intervention (Irregular) Emphasizes
the diagnosis and remediation of reading difficulties in the classroom
setting. Students are expected to become familiar with cause of reading
failure, diagnosis instruments and procedures, principles of report writing,
and corrective instructional methods and materials. The course is open
to graduate students with instructor’s consent. Enrollment limited to 20.
Prerequisite: CIED 5573.

CIED5603 Innovations in School Education (Sp, Su, Fa) An examination
of the change process in education with emphasis on those elements
which support or hinder change in the schools, and the detailed study of
schools innovations on national, state, and local levels.

CIED5613 Contemporary Issues in Education (Odd years, Fa) A study of
issues pertaining to the goals, objectives, organization, and curriculum of
the schools with an analysis of the teacher’s role in dealing with current
concerns in these areas.

CIED5623 The School Curriculum (Sp, Su, Fa) General principles and
techniques of selecting and organizing curricular materials.

CIED5633 Analysis of Instruction (Sp) A survey of the research and
literature related to the systematic study of the field of teaching. An
examination of the definitions of teaching and the knowledge base on
which teaching is predicated. A study of the implications of the research of
effective teaching and the key curricular and instructional issues.

CIED564V Science Instructional Strategies (Irregular) (1-6) Methods and
materials in teaching specific science content with a focus on that content
and/or the pedagogical perspectives necessary for effective and engaging
instruction. May be repeated for up to 6 hours of degree credit.

CIED5653 Methods of Middle School Instruction (Su) Philosophy,
rationale, and instructional practices of middle school instruction.
Prerequisite: Graduate standing.

CIED567V Teaching Foreign Cultures in Social Studies Curricula (Sp, Su,
Fa) (1-6) Extensive examination of foreign cultures (West Europe, USSR,
China, Latin America) and methods of teaching about them in secondary school social studies.

CIED5683 Adolescent Literature (Sp, Su, Fa) Content course in adolescent literature including selection, reading, evaluation, and psychological basis of classic and contemporary works. Prerequisite: PSYC 3093 or equivalent.

CIED5703 English Language Arts and Reading Standards: Contents and Quality (Irregular) This course will (1) examine the purposes, contents, and quality of K-12 English language arts and reading standards, (2) analyze their relationship to classroom and school district curricula, student assessment, educator licensing regulations, licensure tests, and professional development, (3) and explore educational, social, and political issues raised by ELA/R standards.

CIED5713 Integrating the Elementary Curriculum (Su) This course focuses on meaningful integration of science, mathematics, literacy, social studies, art, and music in the elementary classroom. A strong foundation for integrating the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to classroom practice. Strategies to coordinate the integration of these subject areas for the K-4 classroom will be modeled.

CIED5723 Nature and Needs of Persons with Mild Disabilities (Fa) Educational, psychological, and social characteristics of individuals who have mild disabilities with emphasis on educational methods and modifications. Prerequisite: CIED 3023.

CIED5733 Inclusive Practices for Diverse Populations (Su) An advanced study of the characteristics of persons with exceptional learning needs and the provision of appropriate instruction in the general education classroom. Prerequisite: Graduate status.

CIED5743 Teaching Persons With Physical and Health Disabilities (Sp) This course is an advanced course at the master’s level in the specialty studies. The Scholar Practitioner model at this level will pursue an in-depth study of the characteristics, needs, and methods for teaching of persons with physical and health disabilities while emphasizing advance learning in the specialty studies and the social and behavioral studies in the substantive areas. Prerequisite: Graduate status.

CIED5753 Nature and Needs of Persons with Serious Emotional Disorders (Irregular) A survey of the educational, psychological, and social characteristics of individuals with serious emotional disorders. Four major categories of behaviors (personality disorders, pervasive developmental disorders, and learning/behavior disorders) are reviewed in relationship to identification, assessment, and program intervention within the public school setting. Prerequisite: CIED 3023.

CIED5763 Teaching Individuals with Severe Disabilities (Sp) Methods and materials for teaching students with severe disabilities, including severe mental retardation, serious emotional disturbance, and severe physical disabilities.

CIED5773 Methods for Young Children with Disabilities (Irregular) This course is one of the substantive core courses required of all students being recommended for the P-4 Instructional Specialist license. The Scholar-Practitioner Model at this level provides an introduction to the education of young children with special learning needs and a foundation for the developing professional.

CIED5783 Professional and Family Partnerships (Sp) This course is an advanced course at the master’s level in the specialty studies. The Scholar Practitioner model at this level will pursue an in-depth study of family-school partnerships from early childhood through the transition to adulthood while emphasizing advance learning in the specialty studies and the social and behavioral studies in the substantive areas. Prerequisite: Admission to graduate school.

CIED5793 Practicum in Literacy (Sp, Su, Fa) Laboratory experience in which students diagnose reading difficulties and practice remedial measures under the direct supervision of the instructor. Emphasis is given to continuous diagnosis and to the use of commercially produced materials and trade books in remediation. Enrollment limited to 15. Prerequisite: CIED 5593.

CIED5803 Nature and Needs of the Gifted and Talented (Fa) Educational, psychological, and social characteristics of gifted and talented children. Prerequisite: Graduate standing.

CIED5813 Curriculum Development in Gifted and Talented (Sp) Examines the various models for developing curriculum and providing services for students identified for gifted programs. Prerequisite: CIED 5803.

CIED5823 Gifted and Talented (Structured) Practicum (Su) Supervised field experience in gifted education programs, schools, institutions, and other facilities for gifted/talented children. Prerequisite: CIED 5813.

CIED5833 Gifted and Talented (Flex) Practicum (Fa) Students design and implement an individualized practicum experience (Type III Renzulli) that provides the opportunity to refine and enhance personal attitudes, beliefs, and skills in gifted education. Prerequisite: CIED 5823.

CIED5843 Representations of American Education in Film (Irregular) This course provides an examination of students, teachers, administrators, schools, and schooling as they exist on the silver screen. Of particular interest is how film representations and misrepresentations potentially affect public perceptions of education. This course draws on educational theory and the field of cultural studies.

CIED5853 Issues in Mathematics Education (Irregular) Study of research in mathematics education and applications to classroom teaching and learning. Emphasis will be given past and current research in the areas of students' cognitive development in mathematics, mathematics curriculum development, and teaching practices and assessment.

CIED5863 Teaching Global Issues (Odd years, Sp) Global interdependence and its consequent issues have become an integral part of most social studies programs in American schools. Some schools developed specific courses, required or elective, and others include them in existing history, economics, government and civic courses. Secondary social studies teachers and their students explore these issues as part of current events discussions. Prerequisite: Graduate standing.

CIED5873 Assessment of Exceptional Students (Fa) Methods and techniques of assessment of children in all areas of exceptionality with emphasis on diagnosis and classification.

CIED5883 Research in Special Education (Fa) Review of research in special education including all areas of exceptionality with emphasis on diagnosis and classification.

CIED5893 Organization, Administration and Supervision of Special Education (Irregular) Procedures, responsibilities and problems of organization, administration, and supervision of special education programs.
CIED5923 Second Language Acquisition (Sp) This course is one of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course gives an introduction to the basics in research and learning theories involved in the acquisition of second languages and cultures, particularly ESL.

CIED5933 Second Language Methodologies (Fa) This course is one of a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course introduces the basics in approaches, methodologies, techniques, and strategies for teaching second languages, especially ESL.

CIED5943 Teaching People of Other Cultures (Sp) This course is one in a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course focuses on cultural awareness, understanding cultural differences, and instruction methods for integrating second cultures, especially the culture of the United States, into the curriculum.

CIED5953 Second Language Assessment (Sp) This course is one in a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course introduces basic methods for testing, assessing and evaluating second language, especially ESL, learners for placement purposes and academic performance.

CIED5963 Reading in Middle and Secondary Schools (Irregular) Methods and materials of teaching reading in secondary schools with emphasis on remedial and developmental reading problems of students.

CIED5973 Practicum in Secondary Education (Sp, Fa) Students will engage in action research in a school setting to advance their knowledge of teaching and learning venues including schools and informal learning environments. Prerequisite: Permission.

CIED5983 Practicum in C & I (Sp, Su, Fa) This course will provide degree candidates with advance knowledge of teaching in the elementary or secondary schools. This will be accomplished through a semester-long practicum during which an action research project will be designed, enacted, and reported. Prerequisite: Admission to the M.Ed. Program. May be repeated for up to 6 hours of degree credit.

CIED599V Special Topics (Sp, Su, Fa) (1-18) May be repeated for up to 18 hours of degree credit.

CIED600V Master’s Thesis (Sp, Su, Fa) (1-6) This course is designed for students completing a thesis at the master’s level in curriculum and instruction and related programs. It may be taken multiple times for 1-6 credits but no more than 6 credits will be counted toward the degree. Prerequisite: Graduate Standing May be repeated for up to 6 hours of degree credit.

CIED6013 Curriculum Development (Fa) Principles and concepts of curriculum and development, with an analysis of the factors basic to planning, the aims of the educational program, the organization of the curriculum, curriculum models, and elements desirable in the curriculum of schools.

CIED6023 Instructional Theory (Irregular) Study of psychological, anthropological, sociological, and educational theories of instruction and learning. Emphasis is placed on synthesizing a broad range of existing and emerging perspectives in understanding individual, interactional and contextual phenomena of instruction and learning. Prerequisite: EDFD 5373.

CIED6033 Content Specific Pedagogy (Irregular) This course explores the relationship between the content of courses taught in schools and the pedagogical principles that the teaching of the content requires. Students will discuss and synthesize findings from the research literature and from personal investigation. Prerequisite: CIED 6203.

CIED6043 Analysis of Teacher Education (Irregular) This course examines issues, problems, trends, and research associated with teacher education programs in early childhood, elementary, special education, and secondary education. Prerequisite: CIED 6023.

CIED6053 Advanced Assessment (Sp) This course provides a survey of assessment methods used to evaluate students’ levels of performance in educational settings. Prerequisite: Admissions to Ed.S. or Ph.D. program.

CIED6063 Systemic Change In Education (Sp) This course is designed to critically examine education and society and interplay their interdependence between them, to differentiate between meaningful and superficial change, and to explore the agents of change in a diverse and complex social environment. Prerequisite: Admission to Ed.S. or Ph.D. program.

CIED6073 Seminar in Developing Creativity (Irregular) A study of the facets of creativity, how they can be applied to be used in one’s everyday life, how they can be applied in all classrooms, and how to encourage the development of these in students.

CIED6083 Piaget’s Theory and Instruction (Odd years, Sp) Piaget’s theory has been applied to classroom instruction in various settings. This course will investigate the theory in depth, study classroom application, and students will devise application. Prerequisite: CIED 6023.

CIED6113 Trends and Issues in Social Studies Education (Odd years, Sp) Analysis of social studies education including an examination of the historical, political and social issues that have shaped curriculum, pedagogy and the educator’s role in the increasingly complex endeavor to prepare future citizens.

CIED6233 Organization of Reading Programs (Sp, Su, Fa) Study of the problem of organizing the classroom, individual school, and school system, for the improvement of reading instruction. Emphasis is given to the development of program organization rationale based on requirements of the teaching-learning setting.

CIED6313 Issues, History, and Rationale of Science Education (Irregular) This course is the foundation experience for those interested in the discipline of science education. It provides an overview of the fundamental issues in and vocabulary of science education. The course includes the research basis for science teaching, the literature of science education, and the issues and controversies surrounding the teaching of science.

CIED6333 Nature of Science: Philosophy of Science for Science Educators (Irregular) The Nature of Science is a hybrid arena consisting of aspects of the philosophy, history and sociology of science along with elements of the psychology of scientific observations all targeting the complete understanding of how science actually functions. Prerequisite: Admission to grad school.

CIED6343 Advanced Science Teaching Methods (Irregular) This course is designed for those educators who have had some previous instruction in science teaching methods and/or had some prior science teaching experience. Students will gain new or renewed perspectives with respect to their personal teaching ability while engaging in discussions and
activities designed to assist others in professional grow in science instruction. Prerequisite: Admission to graduate school.

CIED641V Special Topics in Special Education (Irregular) (1-6) Discussion and advanced studies on select topics in special education. Specific focus on recent developments. May be repeated for up to 6 hours of degree credit.

CIED6433 Legal Aspects of Special Education (Irregular) A study of litigation and legislation in special education, federal and state laws and court cases, and due process hearings.

CIED6443 Mixed Methods Research (Sp) This course will provide opportunities for students to acquire the skills, knowledge, and strategies necessary to design and implement a mixed methods research study. Emphasis is upon developing research questions, developing a research design, selecting a sample, and utilizing appropriate techniques for analyzing data.

CIED6503 Effective Teaching: Concepts and Processes (Sp) This course is designed to assist students in examining a variety of effective teaching practices and conditions found in classrooms and in acquiring knowledge, concepts, and ideas about ways to effectively influence the interests, learning and development of students. Prerequisite: Admission to the Ph.D. program.

CIED6533 Problem-Based Learning and Teaching (Irregular) A course in the design, development, and delivery of the problem-based learning (PBL) model. Theoretical cases and curriculum models will be centered on issues and models related to PBL.

CIED6603 Multicultural Education (Su) This course is designed to trace, examine, discuss, and promote understanding of issues related to multicultural education, different views of multicultural education, and the impact of multicultural education upon the schooling process. Emphasis is upon schooling experiences of culturally diverse students, language issues, gender issues, and evaluation issues. Prerequisite: Admission to the Ph.D. program.

CIED660V Workshop (Irregular) (1-18) May be repeated for up to 18 hours of degree credit.

CIED674V Internship (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

CIED6803 Teaching Students with Autism Spectrum Disorders (Fa) This course provides students with an understanding of individuals who have been diagnosed with autism spectrum disorders. The course provides a life-span perspective by focusing on preschoolers, school-aged children, and adults. Students will study the characteristics of these individuals and general educational strategies for their education.

CIED680V Ed.S. Project (Sp, Su, Fa) (1-6) Instructor permission required to register. Prerequisite: Instructor permission.

CIED6813 Assessment of Students with Autism Spectrum Disorders (Sp) This course provides an in-depth study of the assessment of individuals with autism spectrum disorders. It includes formal and informal assessment measures used to assist in the identification of students with ASD, as well as provide information for program development for this group of students.

CIED6823 Instructional Methods for Students with Autism Spectrum Disorders (Fa) This course is designed to assist professional educators in planning and implementing instructional and support services for students with autism spectrum disorders. Students will learn how to participate in collaborative family, school, and community partnerships.

CIED6833 Practicum in Autism Spectrum Disorders (Sp, Su, Fa) Supervised field experiences in programs, schools, and other settings for children with autism spectrum disorders.

CIED6843 Basic Principles of ABA (Fa) Course provides information on: (a) the philosophical assumptions and principles of behavior analysis; (b) basic principles, processes, and concepts of applied behavior analysis; and (c) ethical and legal issues involved in its use.

CIED6853 Behavioral Assessment in ABA (Fa) Course content includes information on effective methods and the development of skills: (a) assessing, organizing, and interpreting behavior; (b) conducting task analysis and selecting intervention goals and strategies; (c) displaying data; and (d) making evidence-based decisions. Legal and ethical standards will be reviewed and applied to behavioral change procedures used.

CIED6863 Behavior Change Procedures and Supports (Su) Course content includes (a) information on behavior change procedures; (b) activities designed to acquire skill in developing and evaluating behavioral change programs; and (c) information and activities designed to acquire skills in providing and monitoring persons and systems providing support. Legal and ethical standards will be reviewed and applied to the course content.

CIED6873 Measurement and Experimental Design (Sp) Course content includes information on and the development of skills in: (a) the measurement of the multiple dimensions of behaviors; (b) the use of methods of measuring behavior; (c) the experimental evaluation of interventions; and (d) the multiple methods of displaying and interpreting behavioral data. Legal and ethical standards will be reviewed and applied to the course content.

CIED6883 ABA Ethical, Professional, and Legal Standards (Fa) Course content includes information on the ethical, professional and legal standards in special education and, specifically, the area of applied behavior analysis.

CIED694V Special Topics (Sp, Su, Fa) (1-6) Discussion and advanced studies on selected topics in curriculum and instruction. Specific focus on recent developments. May be repeated for up to 6 hours of degree credit.

CIED695V Independent Study (Sp, Su, Fa) (1-6)

CIED700V Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy Classical Studies (CLST)

CLST1003 Introduction to Classical Studies: Greece (Odd years, Fa) An introduction to the world of Ancient Greece, from the Trojan War to Alexander the Great. Progresses chronologically, focusing on the literary, artistic, political, and philosophical ideas of the Greeks. Who were they and how are we like them?

CLST1003H Honors Introduction to Classical Studies: Greece (Odd years, Fa)

CLST1013 Introduction to Classical Studies: Rome (Even years, Sp) A multi-faceted introduction to Roman culture, focusing on the literature, philosophy, architecture, history, art and archeology. Source material to be read in English. Lectures liberally illustrated with slides.
CMJS4013 Special Topics in Criminal Justice (Sp, Fa) Comprehensive study of varied subjects in contemporary criminal justice. May be repeated for up to 9 hours of degree credit.

CMJS2003 Introduction to Criminal Justice (Sp, Fa) Survey of the field of criminal justice, with an emphasis upon law enforcement, the courts, and corrections.

CMJS2023 Introduction to Criminology (Sp, Fa) Examination of the extent of crime in America, patterns of criminal behavior, and the causes of criminality.

CMJS2043 Criminal Law and Society (Sp, Fa) Principles and problems of criminal law in contemporary society. Prerequisite: CMJS 2003.

CMJS2053 Critical Thinking and Writing in Criminal Justice (Irregular) An introduction to methods of critical thinking and writing in criminal justice. Prerequisite: CMJS 2003; open to majors only.

CMJS2513 Criminal Investigation (Sp) Survey of the theories, concepts, and legal conditions concerning the techniques used in the location, preservation and presentation of evidence. Prerequisite: CMJS 2003.

CMJS3023 Criminology (Sp, Su, Fa) A survey of theories of crime causation, development of law, corrections, victimization, and police and policy. Prerequisite: SOCI 2013 or SOCI 2033. (Same as SOCI 3023)

CMJS3043 The Police and Society (Sp, Fa) Origins, development, and practice of policing, with an emphasis on police organization, problems, and issues in contemporary society. Prerequisite: CMJS 2003.

CMJS3203 Corrections (Fa) A study of the origins, development, and practices related to corrections, including incarceration, community corrections and supervision, and intermediate sanctions. Prerequisite: CMJS 2003. (Same as SOCI 3203)

CMJS3503 Criminal Procedures (Fa) Legal principles of police work, including arrests, force, interviewing, search and seizure. Prerequisite: CMJS 2003.

CMJS3513 Criminal Evidence (Sp) Examination of how criminal evidence is collected by police and used by prosecutors and defense attorneys within a constitutional framework. Prerequisite: CMJS 2003. (Same as SOCI 3513)

CMJS399VH Honors Course (Sp, Fa) (1-6) May be repeated for up to 12 hours of degree credit.

CMJS4003 Internship in Criminal Justice (Sp, Su) Supervised experience in municipal, county or state criminal justice agency, or any other agency which is approved by instructor. Prerequisite: CMJS 2003.

CMJS4013 Special Topics in Criminal Justice (Sp, Fa) Comprehensive study of varied subjects in contemporary criminal justice. May be repeated for different topics. Prerequisite: CMJS 2003 or SOCI 2013. May be repeated for up to 9 hours of degree credit.

CMJS403V Individual Study in Criminal Justice (Sp, Su, Fa) (1-6) A reading and conference course on special topics in criminal justice.
information sources and career assessment tools and techniques.
Prerequisite: CNED 5333 (preferred)

CNED5303 Individual Appraisal (Fa) Analysis of concepts, methods, and procedures utilized in individual appraisal.

CNED5313 Program Organization and Information Management (Fa) Study of client information needs and strategies for effective management of counseling services.

CNED5323 Counseling Theory (Su, Fa) Introductory survey and critical analysis of major alternative theoretical perspectives in counseling.

CNED5333 Basic Counseling Techniques (Sp, Fa) Introduction to basic counseling techniques and skills common to multiple theoretical perspectives. Prerequisite: CNED masters student or instructor Permission.

CNED5343 Counseling Practicum (Sp, Fa) Supervised counseling practice. Pre or Co requisite: CEND 5303 and CNED 5363 and CNED 5373. Prerequisite: CNED 5203, CNED 5323, CNED 5333, CNED 5403. CNED faculty consent required.

CNED5353 Psychopharmacology (Su) Study of theory, research, & practice issues pertaining to psychopharmacology for non-medical practitioners. Prerequisite: CNED 5203, CNED 5323, CNED 5333.

CNED5363 Dynamics of Group Counseling (Sp, Fa) Therapeutic and other theoretical information is presented regarding group process and the counselor’s role in that process. An experiential group experience is required. Prerequisite: CNED 5333 and CNED 5323.

CNED5373 Ethical and Legal Issues in Counseling (Fa) (Formerly CNED 5372) Review of ethical and legal standards governing professional counselor training, research, and counseling practice; including client rights; confidentiality; the client-counselor relationship; and counseling research, training, and supervision. Prerequisite: CNED 5103 and CNED 5203.

CNED5383 Crisis Intervention Counseling (Su) (Formerly CNED 5382) Analysis and application of short-term counseling intervention strategies in crisis situations, with special attention to incidents involving rape, physical, or emotional abuse, divorce, suicidal depression, grief, marital or family instability, and violent conflict. Prerequisite: CNED 5333 (preferred).

CNED5403 Case Management and Counseling (Fa) Procedures in case management utilizing both clinical and interview data in assisting children, adolescents, and adults in educational, vocational, personal, and social planning. Prerequisite: CNED 5303 and CNED 5323 and CNED 5333.

CNED5513 Counseling and Human Diversity (Su) Examination of human and cultural diversity, emphasizing issues of race, class, and socioeconomic status, and how they impact our clients as individuals and as family and society members.

CNED574V Counseling Internship (Sp, Fa) (1-3) A 600-clock-hour field placement in an approved setting over a minimum of two continuous semesters. Co or Prerequisite CNED 5213. Prerequisite: CNED 5203, CNED 5303, CNED 5323, CNED 5333, CNED 5343, CNED 5363, CNED 5373, CNED 5403, CNED 5513 and CNED 6203. CNED Faculty consent required. May be repeated for up to 6 hours of degree credit.

CNED599V Seminar (Irregular) (1-6) May be repeated for up to 6 hours of degree credit.

CNED6003 Counseling and Addictions (Su) A study of behavioral and substance additions, including an overview of differential treatment. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

CNED600V Master’s Thesis (Sp, Su, Fa) (1-6)

CNED6013 Advanced Counseling Theory and Methods (Even years, Sp) Critical analysis of major theoretical perspectives in counseling, including both group and individual counseling strategies for dealing with affective, cognitive, and behavioral dysfunction. Prerequisite: CNED doctoral standing or permission.

CNED6023 Foundations of Marriage and Family Counseling Therapy (Su) Comprehensive exploration of the current theories/techniques of marriage, family and couples counseling. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

CNED6033 Advanced Group Theory and Methods (Odd years, Sp) Comparative study of theories and processes of group counseling. Includes supervised experience in group facilitation with video recording and playback. Prerequisite: CNED 5363 or equivalent and CNED doctoral or masters standing or permission.

CNED6043 Supervision of Counselors (Even years, Fa) Analysis, assessment, and practical application of counselor supervision techniques in treatment and training programs. Prerequisite: CNED doctoral standing and CNED faculty consent

CNED605V Independent Study (Sp, Su, Fa) (1-18) May be repeated for up to 18 hours of degree credit.

CNED6073 Research in Counseling (Odd years, Sp) Review and analysis of research in counseling. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

CNED6083 Consultation Theory and Methods (Su) Strategies, practical application, and techniques for effective consultation with parents, teachers, and community agencies. Prerequisite: CNED 5333 (preferred) CNED doctoral or masters standing or permission.

CNED6093 Counseling Children and Adolescents (Sp) Introduction to counseling children and adolescents including the process, theories, techniques, and materials applicable to children and adolescents in a pluralistic society. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

CNED6123 Clinical Applications of Marriage and Family Counseling and Therapy (Odd years, Fa) Advanced clinical methodology appropriate for family counseling, marriage counseling, and couples counseling (in all settings), with emphasis on solution-focused systems, Satir model and psychoeducational family work in schools. Includes supervision of clinical experience in marriage, family and couples counseling, video recording and school/community outreach. Prerequisite: CNED 6203 and CNED doctoral standing or permission.

CNED6223 Foundations of Counselor Education and Supervision (Odd years, Sp) This course is designed to enhance the professional development and acculturation of doctoral students in order to facilitate their success in professional leadership roles of counselor education, supervision, counseling practice, and research competencies. Prerequisite: CNED Doctoral status or permission.

CNED6343 Cultural Foundations and Counseling (Even years, Fa) To gain learning experiences in pedagogy relevant to multicultural issues
and competencies, including social change theory and advocacy action planning. To identify current multicultural issues as they relate to social change theories, ethical and legal considerations, disability, gender, sexuality, social justice, and advocacy models. Prerequisite: CNED or RHAB Doctoral Standing or Permission.

CNED6413 Advanced Individual Appraisal (Odd years, Fa) To provide advanced knowledge and experience with those psychoeducational instruments and procedures used in conducting school related assessment. Prerequisite: CNED 5303 and CNED 5413 or equivalent and CNED doctoral standing or permission.

CNED6711 Advanced Counseling Practicum (Sp) Supervised counseling practice. A 100-clock hour approved practical counseling experience. Prerequisite: CNED doctoral standing, Permission of CNED faculty and Clinical Coordinator. May be repeated for up to 3 hours of degree credit.

CNED674V Internship (Sp, Su, Fa) (1-18) Supervised field placement (Clinical/Instructorship/Supervision/Research). Prerequisite: CNED doctoral standing, CNED faculty consent and CNED Clinical Coordinator consent. May be repeated for up to 18 hours of degree credit.

CNED699V Seminar (Su) (1-18) Prerequisite: CNED Doctoral standing or permission. May be repeated for up to 18 hours of degree credit.

CNED700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy and consent.

Communication (COMM)

COMM1003 Basic Course in the Arts: Film Lecture (Sp, Su, Fa) Introduction to film as entertainment and art. How to look at film through a study of composition, lighting, editing, sound and acting. Lectures and viewing time.

COMM103H Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa) Introduction of film as entertainment and art. How to look at a film through a study of composition, lighting, editing, sound and acting. Lectures and viewing time. Corequisite: Drill component.

COMM1023 Communication in a Diverse World (Sp, Fa) Introductory course that focuses on the skills and understandings associated with competent communication in a diverse society within interpersonal, group, organizational and intercultural communication contexts.

COMM1233 Media, Community and Citizenship (Sp, Fa) Examines theory and research on how messages are processed, meanings constructed, communities formed and maintained through interaction with the media. Focus is on critical citizenship and media literacy in the context of the cognitive, social, cultural, political, and economic consequences of increasingly networked media systems.

COMM1313 Public Speaking (Sp, Su, Fa) Application of the communication techniques needed to organize and deliver oral messages in a public setting. Emphasis given to theory and practice of message strategies and preparation, audience analysis, presentational skills including multimedia support, speech criticism, and the listening process.

COMM1313H Honors Public Speaking (Sp, Su, Fa) Application of the communication techniques needed to organize and deliver oral messages in a public setting. Emphasis given to theory and practice of message strategies and preparation, audience analysis, presentational skills including multimedia support, speech criticism, and the listening process.

COMM2303 Advanced Public Speaking (Sp, Su, Fa) Continuing study of the invention and adaptation or oral discourse to the needs of listeners. Consideration of the problems of communication in platform presentation. Prerequisite: COMM 1313.

COMM2323 Interpersonal Communication (Sp, Su, Fa) Personal and interpersonal factors affecting communication in everyday life. Emphasis upon ways in which interpersonal perception, physical environment, semantic choices, and nonverbal cues affect communication primarily in the context of work, family, and other personal experiences.

COMM2333 Introduction to Communication Research (Sp, Fa) Introduction to the basic assumptions underlying communication inquiry; resources for and methods of data collection in communication research; and techniques for organization, interpretation, reporting, and evaluation of communication research.

COMM2343 Introduction to Small-Group Communication (Sp, Fa) An introduction to procedures used in exchanging information, solving problems, determining policies, and resolving differences in committees and other small groups. Prerequisite: COMM 1313.

COMM2373 Introduction to Debate (Irregular) An introduction to the basic principles and procedures of debate as an instrument of critical choice and decision.

COMM2382 Intercollegiate Forensics (Irregular) Preparation and participation in public debates and other forensic activities. No more than 6 hours of credit in COMM 2382 and 3282 may be applied toward the departmental requirement. (A maximum of 12 hours in COMM 2382 and 3282 hours of credit.) Pre- or Corequisite: COMM 2373. May be repeated for up to 6 hours of degree credit.

COMM2613 Nonverbal Communication (Irregular) Creates an understanding of the functions of nonverbal cues operating in human communication processes and develops familiarity with recent research in the field of nonverbal communication. Prerequisite: COMM 1023.

COMM2813 Introduction to Electronic Media (Fa) Introduction to the industries centered around electronic media, including radio, broadcast and cable television, telephony, computer information systems, and digital media. Emphasis on the historical development, organizational patterns, and cultural functions of the media. Pre- or Corequisite: COMM 1233.

COMM298V Topics in Communication (Irregular) (1-3) Topics in communication not represented in other lower division courses. Prerequisite: Completion of at least 3 hours of COMM coursework.

COMM3143 Language and Expressive Culture This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression. (Same as ANTH 3143,ENGL 3143)

COMM3173 Introduction to Linguistics (Irregular) Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, and the history of linguistic scholarship. Prerequisite: Junior standing. (Same as ANTH 3173,ENGL 3173,WLLC 3173)

COMM3263 African Americans in Film (Irregular) A survey of the history of images of African Americans in film, especially as these images
are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023, COMM 1003, and advanced standing. (Same as AAST 3263, ENGL 3263, JOUR 3263)

COMM3282 Advanced Forensics (Irregular) A continuation of 2382. No more than 6 hours of credit in COMM 2382 and 3282 may be applied to the departmental requirement. (A maximum of 12 hours in COMM 2382 and 3282 may be counted toward the B.A. requirements.) Prerequisite: COMM 2382. May be repeated for up to 6 hours of degree credit.

COMM3333 Communication Criticism (Irregular) Basic elements and theoretical perspectives on criticism of public communication. Extensive practice in written analysis of events in public address, film, television, and other mass media. Prerequisite: COMM 1233.

COMM3343 Contemporary Communication Theory (Sp) Study of the nature of the communication process as it is reflected in the individual, in interpersonal settings, in one-to-many situations, and in the mass media. Prerequisite: COMM 1023 and COMM 2333 or permission of instructor.

COMM3353 Argumentation: Reason in Communication (Fa) Concepts characterizing rational discourse, with a concern for examining validity and fallacy. Consider traditional and contemporary models for analyzing argument, including an examination of the philosophy of argument and a practical inquiry into the uses of argument in contemporary rhetorical discourse. Prerequisite: COMM 1313.

COMM3373 Leadership Communication (Irregular) An analysis of leadership as a discursive process, focusing on how leadership emerges and is enacted on a daily basis through communication-related behaviors. Prerequisite: COMM 1023 or permission of instructor.

COMM3383 Persuasion (Fa) Introduction to theories of persuasion with emphasis on application and effect. Prerequisite: COMM 1313.

COMM3423 Science Fiction Film (Irregular) This class concentrates on how science fiction in various communication media influences and is, in turn, influenced by broad features of cultural life. The class considers the impact of science fiction on science fact, the military, space travel, religion, race, gender, social class, education, politics, technology, and fashion styles. Prerequisite: COMM 1003 and COMM 1233.

COMM3433 Family Communication (Irregular) Study of the nature, functions, and management of communication patterns in the family. Focus is on understanding routine interpersonal interactions, conflict patterns, authority structures, and decision-making processes within the context of the contemporary family. Prerequisite: COMM 2323.

COMM3443 Introduction to Rhetorical Theory (Fa) Interpretive-critical study of rhetoric in public contexts. Prerequisite: COMM 1313.

COMM3503 Popular Communication and Culture (Su) This course is an introduction to basic theories and topics of Popular Communication and Culture studies. The course will emphasize understanding popular media communication forms. Prerequisite: COMM 1023 and COMM 1233.

COMM3673 Mediated Communication (Sp, Fa) Focuses on media messages and their social/cultural/effector. Includes a critical examination of media institutions and the ways they vie for audiences. Other topics include the ways people create meaning from messages, media's influence on attitudes, media's role in cultural life, and audiences as critical consumers of media. Prerequisite: COMM 1233 and COMM 2813.

COMM3703 Organizational Communication (Fa) An introduction to the theory, processes, and management of communication in organizations, with opportunities for simulated application. Prerequisite: COMM 1023 and COMM 1313.

COMM3783 Health Communication (Fa) Examines communication within health care organizations and teams. Issues may include patient-provider communication, communication among health care professionals, negative consequences of poor communication in health care delivery, and the use of technology in health-related information dissemination and campaigns. Prerequisite: COMM 1023.

COMM3883 Rhetoric of Social Movements (Irregular) Study of the functions of rhetoric as it appears in the context of social movements such as American independence, women's equality, civil rights, populism, and new conservatism. Prerequisite: COMM 1313.

COMM3923H Honors Colloquium (Irregular) Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in communication). May be repeated for credit.

COMM3983 Special Topics (Sp, Su, Fa) Communication topics which are not usually presented in depth in regular courses. May be repeated for credit. Prerequisite: At least 3 hours of COMM coursework.

COMM399VH Honors Course (Sp, Su, Fa) (1-6) Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

COMM4113 Legal Communication (Fa) Examines communication processes in the legal environment and focuses on communication skills and behaviors among judges, attorneys, litigants, and jurors. Particular attention will be given to verbal strategies and nonverbal messages related to interviews, negotiation, mediation, and litigation and to the rhetorical functions of legal pleadings and judicial opinions. Prerequisite: COMM 1313 or permission of instructor.

COMM4143 American Film Survey (Fa) A survey of major American film genres, major directors and films that have influenced the development of motion pictures. Prerequisite: COMM 1003 or permission of instructor. (Same as ENGL 4143)

COMM4283 Communication in Contemporary Society (Irregular) An examination of research and theory on the process and effects of communication in modern society. Prerequisite: COMM 1023 and COMM 1233 or permission of instructor.

COMM4313 Language and Society of Japan (Fa) The primary objective of this course is to investigate the way the Japanese language reflects the beliefs and customs of the Japanese people as a social group. For comparison purposes, this course makes reference to studies in American language and culture. Proficiency in Japanese not required. Prerequisite: Junior standing.

COMM4323 Communication and Conflict (Fa) Study of the processes, effects, and management of communicative conflict, including a consideration of conflict styles, power, goals, tactics, assessment, self-intervention and third-party intervention. Prerequisite: COMM 1023 or COMM 1313 or permission of instructor.

COMM4333 Communication and Gender (Fa) Study of the nature, construction, functions, and effects of gender and gender-role stereotypes related to verbal and nonverbal communication, small-group and
organizational interaction, and mass mediated images in contemporary culture. Prerequisite: COMM 2323 or permission of instructor.

COMM4343 Intercultural Communication (Fa) Study of intercultural communication skills, intercultural issues and their impact at home and abroad, and cross-cultural comparisons of communication phenomena from a variety of theoretical perspectives. Prerequisite: COMM 1023 or COMM 1233.

COMM4353 American Public Address (Irregular) Historical and critical study of the leading American speakers, their speeches, the issues with which they were identified. Lectures, discussion, reports, and critical papers. Prerequisite: Junior standing.

COMM4373 Political Communication (Even years, Sp) Study of the nature and function of the communication process as it operates in the political environment. (Same as PLSC 4373)

COMM4383 Rhetoric of the Modern American Presidency (Irregular) A study of the increasing reliance of contemporary presidents on public persuasion through rhetorical discourse.

COMM4393 Freedom of Speech: Cases & Issues (Fa) Study of philosophy, cases, and issues relevant to the first amendment right to the free expression, with focus on issues relevant to internal security, obscenity, pornography, slander, and the regulation of communication. Prerequisite: COMM 1313 and COMM 2333.

COMM4413 Communication, Negotiation, Mediation and Conflict (Irregular) Examines Alternative Dispute Resolution (ADR) research and techniques focusing primarily on negotiation and mediation. Supplements and extends material presented in COMM 4323 (Communication and Conflict). Explores the verbal and nonverbal messages occurring during negotiation and mediation situations in business, legal, and counseling environments. Prepares students for roles involving negotiation and mediation.

COMM4623 Relational Communication (Sp) Review of the major theories and concepts in a relational approach to interpersonal communication. Provides exposure to a sampling of the research findings in relational communication. Prerequisite: COMM 2323 or permission of instructor.

COMM4633 History and Development of International Film I (Irregular) A critical survey of international film as a distinctive art form and as a medium of expression and communication with attention given to films and cinema from its origins to 1975. Prerequisite: COMM 1003.

COMM4643 Environmental Communication (Irregular) Explores how communication is used by individuals, corporations, and governments to shape public debates about environmental issues. Topics include rhetorical strategies, the publics’ right to information and input, dispute resolution techniques, advocacy campaigns, and green marketing. Prerequisite: COMM 1233 and COMM 1313 and COMM 2333 or permission of instructor.

COMM4653 International Film II (Irregular) A critical survey of international film as a distinctive art form as a medium of expression and communication with attention given to films and cinema from 1976 to the present. Prerequisite: COMM 1003.

COMM4683 Documentary Film (Fa) A study and analysis of the documentary film as a discrete film form and as an important contribution to the international cinematic scene. Prerequisite: Advanced standing. Prerequisite: COMM 1003.

COMM4813 Computer Mediated Communication in Personal Relationships (Sp) Study of the theory and research describing the processes, effects, and management of online communication in personal relationships. Pre- or Corequisite: Three credit hours of COMM coursework.

COMM4823 Children and Media (Sp) An in-depth examination of children’s use of media and the effects of media content on child and adolescent development. Topics may include violence and sex in media, commercialism, and new media. Prerequisite: COMM 3673 or permission of instructor.

COMM4843 Computer-Mediated Communication (Fa) Provides an in depth consideration of the nature of computer-mediated communication by examining its use and effects in interpersonal, work, educational, and societal contexts. Prerequisite: COMM 1233 and 2333.

COMM4853 Telecommunication Policy (Irregular) Research and discussion of social, ethical, education, cultural, and technological aspects of telecommunications with attention given to changing programming patterns, world systems of broadcasting, data transmission, emerging technology, international politics, and regulatory policies. Prerequisite: COMM 2813 or permission of instructor.

COMM4863 Seminar in Media (Irregular) Research/discussion of contemporary issues in media. Emphasis on the economic and social impact of advertising, news, censorship, programs directed toward children, portrayals of women and minorities, future trends in media technologies, and analysis of the changing media landscape. Prerequisite: COMM 1233 or permission of instructor.

COMM4883 Television and American Culture (Fa) Historical and critical study of how television shapes American culture and is shaped by it. Attention will be given to the study of television history, programs and audiences; particularly how race and gender shape content and reception of programming. Prerequisite: COMM 1233 and COMM 2813.

COMM5111 Colloquium in Communication Research (Sp, Fa) Presentation, evaluation, and discussion of research proposals or ongoing research projects. Graduate students are required to register for this course each semester of residence. May be repeated for credit.

COMM5113 Historical and Legal Methods in Communication (Fa) Emphasizes the assumptions and procedures of historical and legal research methods in communication. May be repeated for up to 3 hours of degree credit.

COMM5123 Quantitative Research Methods in Communication (Fa) Emphasizes the assumptions and procedures of social scientific research methods in communication.

COMM5133 Media Processes & Effects (Fa) Introduction to scholarly research and theory in media processes and effects. Particular attention will be devoted to the impact of media messages on individuals and
societies. Emphasis will be placed on the construction and development of theory.

COMM5143 Ethnographic Methods in Communication (Fa) This class focuses upon the fieldwork procedures and narrative writing strategies that comprise the methods of ethnographic research in communication. Students conduct fieldwork requiring in-depth interpersonal contact with members of a group or culture, and practice narrative writing skills.

COMM5193 Seminar in Communication (Sp, Su, Fa) Research, discussion, and papers focus on one of a variety of communication topics including symbolic processes in communication, philosophy of rhetoric, communication education, criticism of contemporary communication, interpersonal communication, organizational communication, and contemporary applications of rhetoric. Maximum credit is 9 semester hours. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

COMM5303 Seminar in Rhetorical Theory (Even years, Fa) Humanistic theories of communication and rhetoric with emphasis upon the development of rhetorical theory in the classical world and upon contributions of contemporary theorists. Prerequisite: Graduate standing.

COMM5323 Seminar in Persuasion (Fa) Focus is on comparing theoretical accounts of persuasion and research evidence concerning the effects of various factors on persuasion.

COMM5333 Communication Theory (Fa) Survey of the theoretical orientations in communication theory with primary focus on conceptual, theoretical, and philosophical issues.

COMM5343 Interpersonal Communication (Fa) Theory and research concerning the exchange of information and the mutual influencing of behavior among people. Prerequisite: Graduate standing.

COMM5353 Rhetorical Criticism (Irregular) A seminar in rhetorical criticism. A study of the development of standards of rhetorical appraisal from the foundations of the art of speaking to the modern period; examination of contemporary approaches to rhetorical appraisal and practice in critical analysis of contemporary address.

COMM5363 Seminar in Small Group Communication (Su) A consideration of recent developments in small group research which relate to problem solving tasks, leadership and other kinds of human interaction through speech communication. Emphasis given to the interpersonal speech transaction and to the emergence of participant roles. Prerequisite: COMM 2343 or SOCI 4193.

COMM5373 Content Analysis (Irregular) Techniques for observing and analyzing the overt communication behavior of selected communicators. Prerequisite: Graduate standing.

COMM5383 Seminar in Political Communication (Irregular) Research seminar focusing on selected topics such as candidate imagery, diffusion of political information, or political symbolism. Prerequisite: Graduate standing. (Same as PLSC 5383)

COMM5403 Organizational Communication Theory (Irregular) A seminar on the historical development of theory and research into communication processes occurring within an organizational setting. Lecture, discussion, oral and written reports. Prerequisite: Graduate standing.

COMM5413 Organizational Communication Research (Su) A seminar on conducting applied research within an organizational setting. Prerequisite: COMM 5403 and graduate standing.

COMM5423 Seminar in Mass Media Cognition (Even years, Sp) Seminar exploring how people learn from written, aural and visual mass media messages. Topics to include attention, memory, comprehension, emotional response, arousal, unconscious processing, picture perception and person perception. Seminar will be concerned with most popular media (e.g., television radio, newspaper, and film), and with several content genres (e.g., entertainment, news, advertising).

COMM5433 Marital Communication (Irregular) An exploration of the major theories and lines of research that examine marital communication in contemporary American life.

COMM5443 Issues of Race and Gender in Interpersonal Communication (Odd years, Sp) An exploration of the major theories and lines of research that examine how race and gender influence interpersonal communication in everyday life in America.

COMM5453 Myth and Communication Criticism (Irregular) Seminar in major theories of mythology, including archetypal and ideological perspectives, and their applications to the criticism of public communicative events. Practice in written critical analysis. Prerequisite: Graduate standing.

COMM5463 Descriptive Linguistics (Fa) A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages. (Same as ANTH 5473, ENGL 5463, WLLC 5463)

COMM5503 Communication and Cultural Studies (Fa) Examinations of the role of communication in modern culture. Emphasis is upon the production and circulation of meanings with society, and special attention is given to the role of popular and mass media in this process. Prerequisite: Graduate standing.

COMM5533 Family Communication (Even years, Fa) An exploration of the major theories and lines of research that examine family communication in contemporary American life.

COMM569V Seminar in Film Studies (Irregular) (1-3) Research, discussion; papers on a variety of film genres and areas including the new American film, the science-fiction film, directors, film comedy, the experimental film, criticism, and the film musical. (Same as ENGL 569V) May be repeated for up to 6 hours of degree credit.

COMM590V Special Problems (Sp, Su, Fa) (1-6) Credit by arrangement. Prerequisite: Graduate standing. May be repeated for credit.

COMM5913 Internship in Communication (Sp, Su, Fa) Internship in applied communication within public and private organizations. Prerequisite: 15 hours graduate level communication in residence.

COMM5993 Readings In Cultural Studies (Irregular) Classic and current theoretical approaches to cultural studies. Subject matter changes depending on student interest and faculty expertise.

COMM600V Master's Thesis (Sp, Fa) (1-6) Prerequisite: Graduate standing.
CSCE1953 Explorations in Computing (Fa) An introduction to computers and computing through interactive programming. This course will provide students with the opportunity to explore programming through interactive applications such as robotics, Web applications, and multimedia. Students will learn the basics of programming, i.e., loops, conditionals, and functions, and learn about how computers work by developing their own multimedia programs, controlling their own robots, and/or creating their own interactive Web pages. Prerequisite: MATH 1203.

CSCE2004 Programming Foundations I (Sp, Fa) Introductory programming course for students majoring in computer science or computer engineering. Software development process: problem specification, program design, implementation, testing and documentation. Programming topics: data representation, conditional and iterative statements, functions, arrays and records. Using C++ in a UNIX environment. Corequisite: Lab component. Prerequisite: MATH 2554 or CSCE 1013.

CSCE2004H Honors Programming Foundations I (Irregular) Introductory programming course for students majoring in computer science or computer engineering. Software development process: problem specification, program design, implementation, testing and documentation. Programming topics: data representation, conditional and iterative statements, functions, arrays and records. Using C++ in a UNIX environment. Corequisite: Lab component. Prerequisite: MATH 2554 or CSCE 1013.

CSCE2014 Programming Foundations II (Sp, Fa) This course continues developing problem solving techniques by focusing on fundamental data structures and associated algorithms. Topics include: abstract data types, introduction to object-oriented programming, linked lists, stacks, queues, hash tables, binary trees, graphs, recursion, and searching and sorting algorithms. Using C++ in a UNIX environment. Prerequisite: CSCE 2004. Corequisite: Lab component

CSCE2014H Honors Programming Foundations II (Irregular) This course continues developing problem solving techniques by focusing on fundamental data structures and associated algorithms. Topics include: abstract data types, introduction to object-oriented programming, linked lists, stacks, queues, hash tables, binary trees, graphs, recursion, and searching and sorting algorithms. Using C++ in a UNIX environment. Corequisite: Lab component. Prerequisite: CSCE 2004.

CSCE2114 Digital Design (Fa) Introduction to the hardware aspects of digital computers, logic gates, flip-flops, reduction, finite state machines, sequential logic design, digital systems, software design tools, hardware description language (VHDL), and implementation technologies. Corequisite: Lab component. Prerequisite: MATH 2554. (Same as ELEG 2904)

CSCE2214 Computer Organization (Sp) Presents the relationship between computing hardware and software with a focus on the concepts for current computers. CPU design topics are covered including various techniques for microprocessor design and performance evaluation. Corequisite: Lab component. Prerequisite: CSCE 2114.

CSCE3193 Programming Paradigms (Fa) Programming in different paradigms with emphasis on object oriented programming, network programming and functional programming. Survey of programming languages, event driven programming, concurrency, software validation. Prerequisite: CSCE 2014.

CSCE3313 Algorithms (Fa) Provides an introduction to formal techniques for analyzing the complexity of algorithms. The course surveys important classes of algorithms used in computer science and engineering. Prerequisite: CSCE 2014 and (MATH 2603 or MATH 2803).

CSCE3513 Software Engineering (Sp) A modern approach to the current techniques used in software design and development. This course emphasizes the use of modern software development tools, multi-module programming, and team design and engineering. Prerequisite: CSCE 3193.

CSCE3613 Operating Systems (Sp) An introduction to operating systems including topics in system structures, process management, storage management, files, distributed systems, and case studies. Prerequisite: CSCE 2014 and CSCE 2214.

CSCE3953 System Synthesis and Modeling (Fa) This course instructs the students in the use of modern synthesis and modeling languages and approaches for design automation. This course will teach students the use of HDLs and modeling languages for representing and implementing digital computer systems. Prerequisite: CSCE 2214.

CSCE4013 Special Topics (Irregular) Consideration of computer science topics not covered in other courses. May be repeated for up to 3 hours of degree credit.

CSCE4023H Honors Special Topics (Irregular) Consideration of current computer engineering honors topics not covered in other courses. Prerequisite: Honors standing.

CSCE4043 RFID Information Systems Security (INFOSEC) (Irregular) Radio frequency identification (RFID) information systems provide information to users about objects with RFID tags. They require the application of information systems security (INFOSEC) to protect the information from tampering, unauthorized information disclosure, and denial of service to authorized users. This course addresses security and privacy in an RFID system. Prerequisite: INEG 2313 or STAT 3013.

CSCE4114 Embedded Systems (Fa) The architecture, software, and hardware of embedded systems. Involves a mixture of hardware and software for the control of a system (including electrical, electromagnetic, and electro-chemical systems). They are found in a variety of products including cars, VCRs, HDTVs, cell phones, pacemakers, spacecraft, missile systems, and robots for factory automation. Corequisite: Lab component. Prerequisite: CSCE 2214.

CSCE4114H Honors Embedded Systems (Fa) The architecture, software, and hardware of embedded systems. Involves a mixture of hardware and software for the control of a system (including electrical, electromagnetic, and electro-chemical systems). They are found in a variety of products including cars, VCRs, HDTVs, cell phones, pacemakers, spacecraft, missile systems, and robots for factory automation. Corequisite: Lab component. Prerequisite: CSCE 2214.

CSCE4123 Programming Challenges (Irregular) This course studies the principle methods used in the solution of programming contest problems, e.g., data structures strings, sorting, machine arithmetic and algebra, combinatorics, number theory, backtracking, graph traversal, graph algorithms, dynamic programming, grids, and computational geometry. Prerequisite: CSCE 2014.

CSCE4213 Computer Architecture (Sp) The architecture of modern scalar and parallel computing systems. Techniques for dynamic instruction scheduling, branch prediction, instruction level parallelism, shared and distributed memory multiprocessor systems, array processors, and memory hierarchies. Prerequisite: CSCE 2214. (Same as ELEG 4983)
CSCE4213H Honors Computer Architecture (Sp) The architecture of modern scalar and parallel computing systems. Techniques for dynamic instruction scheduling, branch prediction, instruction level parallelism, shared and distributed memory multiprocessor systems, array processors, and memory hierarchies. Prerequisite: CSCE 2214.

CSCE4233 Low Power Digital Systems (Irregular) The reduction of power consumption is rapidly becoming one of the key issues in digital system design. Traditionally, digital system design has mainly focused on performance and area trade-offs. This course will provide a thorough introduction to digital design for lower consumption at the circuit, logic, and architectural level. Prerequisite: CSCE 2214.

CSCE4253 Concurrent Computing (Irregular) Programming concurrent processes; computer interconnection network topologies; loosely coupled and tightly coupled paralleled computer architectures; designing algorithms for concurrency; distributed computer architectures. Prerequisite: senior standing in computer science or engineering.

CSCE4323 Formal Languages and Computability (Sp) Finite Automata and regular languages, regular expressions, context-free languages and pushdown automata, nondeterminism, grammars, and Turing machines. Church’s thesis, halting problem, and undecidability. Prerequisite: CSCE 3313.

CSCE4333 Introduction to Integrated Circuit Design (Fa) Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design and layout strategies for large scale CMOS circuits. Students may not receive credit for both CSCE 4333 and CSCE 5223. Prerequisite: ELEG 3213 or ELEG 3933 and MATH 2584 (Same as ELEG 4233, ELEG 5923)

CSCE4353 CPLD/FPGA-Based System Design (Irregular) Field Programmable Logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices. Prerequisite: CSCE 2214. (Same as ELEG 4963)

CSCE4353H Honors CPLD/FPGA-Based System Design (Irregular) Field Programmable Logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices. Prerequisite: CSCE 2214 and Honors standing.

CSCE4423 Computer Systems Modeling (Irregular) Basic concepts of problem analysis, model design, and simulation experiments. A simulation will be introduced and used in this course. Prerequisite: CSCE 2014 and (INEG 2313 or STAT 3013).

CSCE4433 Cryptography (Irregular) This course provides a general introduction to modern cryptography. Topics include: stream ciphers, block ciphers, message authentication codes, public key encryption, key exchange, and signature schemes. Prerequisite: MATH 2603 or MATH 2803.

CSCE4523 Database Management Systems (Fa) Introduction to database management systems, architecture, storage structures, indexing, relational data model, E-R diagrams, query languages, SQL, ODBC, transaction management, integrity, and security. Prerequisite: CSCE 2014.

CSCE4543 Software Architecture (Irregular) A study of software architecture through the use of case studies drawn from real systems designed to solve real problems from technical as well as managerial perspectives. Techniques for designing, building, and evaluating software architectures. Students cannot receive credit for both CSCE 4543 and CSCE 5543. Prerequisite: CSCE 3313 and CSCE 3513.

CSCE4561 Capstone I (Sp, Fa) CSCE students complete a comprehensive software capstone project during their final year of undergraduate studies. The project is done over 2 semesters in phases: concept, formal proposal, implementation, and presentation. The projects include and may require the integration of software and human factors and hardware elements and are developed using software engineering methodologies. Pre- or Corequisite: CSCE 3513.

CSCE4613 Artificial Intelligence (Irregular) Introduction to intelligent agents. AI languages, search, first order logic, knowledge representation, ontologies, problem solving, natural language processing, machine vision, machine learning, and robotics. Prerequisite: CSCE 2014.

CSCE4753 Computer Networks (Irregular) This course is an introductory course on computer networks. Using the Internet as a vehicle, this course introduces underlying concepts and principles of modern computer networks, with emphasis on protocols, architectures, and implementation issues. Prerequisite: INEG 2313 or STAT 3013.

CSCE4813 Computer Graphics (Irregular) Introduction to the theory and algorithms used in computer graphics systems and applications. Topics include: 2D and 3D geometric models (points, lines, polygons, surfaces), affine transformations (rotation, translation, scaling), viewpoint calculation (clipping, projection), lighting models (light-material interactions, illumination and shadow calculation). Students will implement their own graphics pipeline to demonstrate many of these techniques. Higher level computer graphics applications will be created using OpenGL. Prerequisite: CSCE 2014.

CSCE490V Individual Study (Irregular) (1-3) Individual study directed by faculty in current research topics, state of the art, or advanced methodology in one of the major computer science or computer engineering areas. May be repeated for up to 3 hours of degree credit.

CSCE4912H Honors Thesis (Sp, Fa) To provide honors students with experience in presenting their research accomplishments to their peers and faculty. Prerequisite: Honors standing. May be repeated for up to 4 hours of degree credit.

CSCE4914 Advanced Digital Design (Irregular) To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Corequisite: Lab component. Prerequisite: CSCE 2114 or ELEG 2904. (Same as ELEG 4914)

CSCE4963 Capstone II (Sp, Fa) CSCE students complete a comprehensive capstone project during their final year of undergraduate studies. The project is done over two consecutive semesters in phases: concepts, formal proposal, implementation, and presentation. The projects include and may require the integration of software, human factors, and hardware elements and are developed using software engineering methodologies. Prerequisite: CSCE 4561.
CSCE5003 Advanced Programming Languages (Irregular) Abstraction, proof of correctness, functional languages, concurrent programming, exception handling, dataflow and object-oriented programming, denotational semantics. Prerequisite: Graduate standing.

CSCE5013 Advanced Special Topics in Computer Science or Computer Engineering (Irregular) Consideration of current computer engineering or computer science topics not covered in other courses. May be repeated for up to 3 hours of degree credit.

CSCE5033 Advanced Algorithms (Irregular) Design of computer algorithms, with primary emphasis on the development of efficient implementation.

CSCE5043 Advanced Artificial Intelligence (Irregular) In-depth introduction to AI. Topics include: philosophical foundations, cognition, intelligent agents, AI languages, search, genetic algorithms, first order and modal logic, inference, resolution, knowledge representation, ontologies, problem solving, planning, expert systems, uncertainty, probabilistic reasoning, fuzzy logic, machine learning, natural language processing, machine vision, and robotics. Prerequisite: Graduate standing and CSCE 4613.

CSCE5053 Advanced Virtual Worlds (Irregular) In depth study of 3D multi-user virtual worlds covering application domains like retail and healthcare logistics, simulations, training, and gaming as well as platform architectures. Students will apply their knowledge of programming and data structures while using synthetic worlds to explore, model and script future smart worlds where computing is pervasive. Students cannot receive credit for both CSCE 4053 and CSCE 5053.

CSCE5203 Advanced Database Systems (Irregular) Topics include: object databases, distributed databases, XML query, data warehouses, network as database systems, peer-to-peer data sharing architectures, data grids, data mining, logic foundations, semantic databases, spatial and temporal databases, and knowledge bases. Prerequisite: CSCE 4523 and graduate standing.

CSCE5213 Bioinformatics (Irregular) Application of algorithmic techniques to the analysis and solution of biological problems. Topics include an introduction to molecular biology and recombinant DNA technology, biological sequence comparison, and phylogenetics, as well as topics of current interest. Prerequisite: Instructor consent. (Same as BENG 5213)

CSCE5223 Introduction to Integrated Circuit Design (Fa) Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both CSCE 4333 and CSCE 5223. Prerequisite: ELEG 3213 or ELEG 3933 and MATH 2584.

CSCE5243 Advanced Formal Languages (Irregular) An advanced continuation of CSCE 4323. Prerequisite: CSCE 4323.

CSCE5253L Integrated Circuit Design Laboratory I (Irregular) Design and layout of large scale digital integrated circuits. Students design, check and simulate digital integrated circuits which will be fabricated, and tested in I.C. Design Laboratory II. Topics include computer aided design, circuit timing, and wire delay. Prerequisite: CSCE 4333.

CSCE5263 Computational Complexity (Irregular) Turing machines, recursion theory and computability, complexity measures, NP-completeness, analysis on NP-complete problems, pseudo-polynomial and approximation.

CSCE5283 Graph and Combinatorial Algorithms (Irregular) A study of algorithms for graphs and combinatorics with special attention to computer implementation and runtime efficiency.

CSCE5313 Advanced Operating Systems (Irregular) Concurrent processes and process communication; mutual exclusion and synchronization principles; kernel philosophy; resource allocation and deadlock; and case studies of specific operating systems. Prerequisite: CSCE 4413.

CSCE5323 Computer Security (Irregular) Study of a broad selection of contemporary issues in computer security. Topics include access control, security policies, authentication methods, secure system design, and information assurance. Prerequisite: CSCE 4413.

CSCE5333 Computer Forensics (Irregular) Various methods for identification, preservation, and extraction of electronic evidence at a computer crime scene. Specific topics include auditing and investigation of network and host intrusions, computer forensics tools, resources for system administrators and information security officers, legal issues related to computer and network forensics. Prerequisite: CSCE 5323.

CSCE5363L Integrated Circuit Design Laboratory II (Irregular) Students test the I.C. chips they designed in I.C. Design Laboratory I, and propose design corrections where needed. Topics include bipolar chip design, gate arrays, BICMOS, memory design, design for testability, and dynamic & domino logic. Prerequisite: CSCE 5253.

CSCE5433 Advanced Cryptography (Irregular) This course provides an in-depth look into some facet of either cryptographic theory or the implementation of cryptography. Topics may include: the discrete logarithm problem, integer factorization, information theory, elliptic curves, lattices, pseudorandom number generators, zero-knowledge proofs, and quantum cryptography. Prerequisite: CSCE 4433 or instructor consent.

CSCE5533 Advanced Information Retrieval (Irregular) Study of the architecture, implementation, and evaluation of current information retrieval systems. Students will apply their knowledge of programming and data structures to implement a large system with an emphasis on efficiency and scalability. They will study current research in the field and implement individual or group projects on advanced topics. Students cannot receive credit for both CSCE 4553 and CSCE 5533.

CSCE5561 Telecommunications (Irregular) Overview of public and private telecommunication systems, traffic engineering, communications systems basics, information technology, electromagnetics, and data transmission. (Same as ELEG 5613)


CSCE5643 Computer Communications Networks (Irregular) A study of computer communication networks, including the data link layer, routing, flow-control, local area networks, TCP/IP, ATM, B-ISDN, queuing analysis, and recent developments in computer communications.

CSCE5653 Network Security (Irregular) This course introduces security and secrecy in a networked environment. It is intended to familiarize students with the elements of secure communication, and how they interrelate to provide secure networks in public and private settings.
CSCE583 Digital Image Processing (Irregular) Introduction to digital image processing with an emphasis on practical implementation techniques. Applications include: image acquisition and sampling, image enhancement, noise removal, image restoration, image compression, and object detection. Fundamental methods include: point operations, geometric transformations, linear image processing in the spatial and frequency domains, and non-linear image processing techniques. Basic techniques of linear system theory such as convolution and Fourier transforms will be introduced as necessary to support these topics.

CSCE523 Client-Server Computing (Irregular) Advanced Object Oriented methods for designing software systems for network applications. Topics include implementations of distributed object models, remote database connectivity, Server side programming, and reusable components.

CSCE51V Master’s Project (Sp, Su, Fa) (1-6) Required course for report option.

CSCE523 Multiprocessor Systems on Chip (Irregular) This course covers the latest trends in advanced computer architecture for multiprocessor systems on chip for embedded and real time systems. Topics covered include multicore architectures, modeling abstractions, runtime systems, and MIMD/SIMD heterogeneous architectures, Hw/Sw co-design techniques. Prerequisite: CSCE 3613 and CSCE 4213.

CSCE5834 Reconfigurable Computing (Irregular) This course will cover emerging and proposed techniques and issues in Reconfigurable Computing. Topics will include FPGA technologies, CAD/CAE tools, Hw/Sw co-design, system level synthesis, programming models and abstractions. Prerequisite: CSCE 4213 and CSCE 3613.

CSCE590V Advanced Individual Study (Irregular) (1-3) Advanced graduate level individual study directed by faculty in current research topics, state of the art, or advanced methodology in one of the major computer science or computer engineering areas.

CSCE593 Computer Arithmetic Circuits (Irregular) Examination of fundamental principles of algorithms for performing arithmetic operations in computers. This course provides sufficient theoretical and practical information to prepare the digital design engineer with an awareness of basic techniques for the realization of arithmetic circuits.

CSCE593 Application Specific Integrated Circuit Design (Irregular) ASIC design is taught with emphasis on industrial preparation. Topics include ASIC technologies, design entry, simulation, and synthesis. Advanced design methods and techniques are studied for cell based and gate array ASICs. Prerequisite: CSCE 4213 or ELEG 4943.

CSCE610V Master’s Thesis (Sp, Fa) (1-6)

CSCE620V Post-Master’s Research (Sp, Fa) (1-18)

CSCE700V Doctoral Dissertation (Sp, Su, Fa) (1-18)

Crop, Soil & Environmental Science (CSES)

CSES1011 Introduction to Crop, Soil, and Environmental Science (Fa) An introduction to the CSES department and majors in Environmental Soil and Water Sciences and Crop Management. Emphasis will be placed on issues and opportunities within these disciplines and orienting students to the department and University of Arkansas. Required of all department majors with less than 24 semester credit hours. Recitation 1 hour 20 minutes per week for the first eight weeks of the semester. Prerequisite: Freshman and sophomore standing only.

CSES1203 Introduction to Plant Sciences (Sp, Fa) An introduction to the fundamental concepts of plant growth, structure, development, and genetics. Prerequisite: BIOL 1113 or CSES 2103 or HORT 2003.

CSES2013 Pest Management (Sp) Introduction to basic principles of pest management as they relate to vertebrate animals, insects, and plant disease and weeds. Selected pests are studied with emphasis on current management approaches and alternative pest control.

CSES2101L Crop Science Laboratory (Sp) A series of laboratory experiments designed to reinforce principles of plant growth and development, reproduction, classification, and the utilization of plant products. Emphasis is placed on major crop plant species. Experiments are conducted by individuals or by teams. Laboratory consists of a single, 2-hour period each week. Required for Crop Management majors. Corequisite: CSES 2103.

CSES2103 Crop Science (Sp) Principles of crop growth, development, and utilization and how these principles relate to production. Emphasis on major agronomic crop species. Lecture 3 hours per week.

CSES2201L Soil Science Laboratory (Fa) Field and laboratory exercises related to the study of the physical, chemical, and biological properties of soils. Laboratory mandatory for all crop management and environmental majors, soil, and water science majors and optional for others. Laboratory 2 hours per week. Prerequisites: CSES 2203.

CSES2203 Soil Science (Fa) Origin, classification, and physical, chemical, and biological properties of soils. Lecture 3 hours, discussion 1 hour per week. Corequisite: Drill component. Prerequisite: CHEM 1103 or CHEM 1073.

CSES3023 Crop, Soil, and Environmental Sciences Colloquium (Fa) A communication-intensive course covering topics in agronomy and environmental science, soil, water science with particular emphasis on spoken communication but also including written communication, group activities, professionalism, ethics, problem solving, and information retrieval. A student-oriented class with collaborative participation. Colloquium workshop: 3 hours per week. Prerequisite: COMM 1313 and Junior or Senior standing only.

CSES3113 Forage Management (Even years, Sp) Forage crops for pasture, hay, and silage with reference to growth and development, production, nutritional quality, and grazing systems. Lecture 3 hours per week. Prerequisite: CSES 1203 or CSES 2103.

CSES3214 Soil Resources and Nutrient Cycles (Odd years, Sp) Integration of the fundamental concepts of the biological, chemical, and physical properties of soil systems and their roles in managing
soil resources. Lecture 3 hours, laboratory 3 hours per week. Pre- or Corequisite: BIOL 2013/2011L. Corequisite: Lab component. Prerequisite: CSES 2203.

CSES3312 Cotton Production (Even years, Fa) Principles and techniques associated with production of cotton. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103 or HORT 1203.

CSES3322 Soybean Production (Odd years, Sp) An overview of the history and utilization of soybean as well as the physiological and environmental basis for the development of economical soybean production practices. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103 or HORT 1203.

CSES3332 Rice Production (Odd years, Fa) A study of the principles and practices involved in rice culture worldwide with major emphasis on the United States. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103 or HORT 1203.

CSES3342 Cereal Grain Production (Even years, Sp) An overview of the botany, production, cultural practices, soil & climatic adaptation and utilization of the major cereal grain crops. Prerequisite: CSES 1203 or CSES 2103 or HORT 1203.

CSES355V Soil Profile Description (Fa) (1-2) Training for soil profile description writing and membership of judging teams. May be repeated for up to 8 hours of degree credit.

CSES400V Special Problems (Sp, Su, Fa) (1-6) Work on special problems in crop, soil and environmental sciences or related field. May be repeated for up to 8 hours of degree credit.

CSES4013 Advanced Crop Science (Sp) Fundamental concepts of crop physiology, crop improvement, seed science, and crop production systems. Recitation 3 hours per week. Prerequisite: CSES 2103.

CSES402V Special Topics (Irregular) (1-3) Studies of selected topics in crop, soil and environmental sciences not available in other courses. May be repeated for up to 12 hours of degree credit.

CSES4103 Plant Breeding (Even years, Fa) Basic principles involved in plant breeding programs to improve crop plants and seed programs. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: ANSC 3123 or BIOL 2323.

CSES4133 Weed Identification, Morphology, and Ecology (Fa) Study of weeds as economic pests occurring in both agricultural and nonagricultural situations and including poisonous plants and other specific weed problems. Gross morphological plant family characteristics which aid identification, habitat of growth and distribution, ecology, competition, and allelopathy are discussed. Lecture 2 hours, laboratory 2 hours a week. Corequisite: Lab component. Prerequisite: CSES 2103 (or HORT 2003).

CSES4143 Principles of Weed Control (Sp) Advanced concepts and technology used in modern weed control practices and study of the chemistry and specific activity of herbicides in current usage. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: CHEM 2613 and CHEM 2611L and CSES 2003.

CSES4224 Soil Fertility (Fa) Study of the soil's chemical, biological and physical properties, and human modification of these properties, as they influence the uptake and utilization of the essential nutrients by plants. Lecture 3 hours, laboratory 2 hours per week. Pre- or Corequisite: CHEM 1123/1121L. Corequisite: Lab component. Prerequisite: CSES 2201L and CSES 2203.

CSES4234 Plant Anatomy (Irregular) Advanced training in plant anatomy. Studying the structure, terminology, techniques and function associated with vascular plant anatomy. Corequisite: Lab component. Prerequisite: BIOL 1613/1611 or BIOL 1543/1541L.

CSES4253 Soil Classification and Genesis (Even years, Sp) Lecture and field evaluation of soil properties and their relation to soil genesis and soil classification with emphasis on soils of Arkansas. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: CSES 2203.

CSES4303 Bioenergy Feedstock Production (Sp) Overview of production and characteristics of cultivated crops, perennial grasses, and woody species as feedstocks for bioenergy. Fundamentals of plant growth factors, culture, harvest and storage, quality and improvement, and introduction to environmental impact, modeling, and resource utilization. Prerequisite: MATH 1203 and BIOL 1543 or CSES 1203. Courses in introductory chemistry or soil science are preferred.

CSES462V Internship (Sp, Su, Fa) (1-6) Supervised practical work experience in agronomy and environmental science to develop and demonstrate professional competence. Faculty approval of project proposal prior to enrollment and written and oral reports after the project is complete are required. Prerequisite: junior standing. May be repeated for up to 6 hours of degree credit.

CSES5001 Weed Science Practicum (Su) Training for membership on weed team, through participation. Prerequisite: Graduate standing.

CSES5013 Crop Physiology (Odd years, Fa) Understanding and quantitative measurement of physiological processes, plant responses, and environmental parameters in relation to the production of crops. Prerequisite: BIOL 4303.

CSES5023 Weed Physiology and Herbicide Resistance in Plants (Even years, Fa) The reproduction, growth, and development of weeds and the ecological factors affecting these processes; development and mechanisms of herbicide resistance, flow of herbicide-resistance genes; and development of herbicide-resistant crops. Corequisite: Lab component. Prerequisite: CSES 4143 and (BIOL 4303 or CHEM 5813).

CSES502V Special Problems Research (Sp, Su, Fa) (1-6) Original investigations on assigned problems in agronomy. Prerequisite: Graduate standing.

CSES5033 Advanced Soil Fertility and Plant Nutrition (Even years, Fa) Study of water uptake, ion absorption, translocation and metabolism in higher plants. Lecture 3 hours per week. Prerequisite: BIOL 4303 and CHEM 2613 and CHEM 2611L.

CSES504V Special Topics (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in agronomy. Prerequisite: Graduate standing. May be repeated for credit.

CSES5053 Scientific Writing (Fa) Open to graduate students, especially those in agricultural and life sciences. The course will cover searching the scientific literature, writing theses, proposals, journal articles, and other scientific documents. Emphasis on style and techniques used in scientific publication. Lecture and workshop 3 hours per week. Prerequisite: Graduate standing.
CSES5103 Scientific Presentations (Fa) Experience in procedures required for professional presentations of scientific papers, seminars, poster sessions. Corequisite: ELEG2114 Electric Circuits II (Sp) Introduction to complex numbers. Sinusoidal steady-state analysis of electric circuits, active, reactive, apparent and complex power; balanced and unbalanced three-phase circuits; mutual inductance; the use of the Laplace transform for electric circuit analysis and two-port networks. Corequisite: Lab component. Pre- or Corequisite: MATH 2584. Prerequisite: ELEG 2104.

ELEG287V Special Topics in Electrical Engineering (Irregular) (1-4) Consideration of current electrical engineering topics not covered in other courses. May be repeated for up to 4 hours of degree credit.

ELEG2904 Digital Design (Fa) To introduce students to modern logic concepts, problem solving and design principles, and vocabulary and philosophy of the digital world. Corequisite: Lab component. Prerequisite: Engineering major. (Same as CSCE 2114)

ELEG3124 System & Signal Analysis (Fa) Definition and description of signals and systems; analog, digital, continuous- and discrete-time and frequency analysis of systems, Z- and Fourier Transforms, sampling and signal reconstruction, filter design and engineering applications. Corequisite: Lab and drill components. Prerequisite: ELEG 2114 or ELEG 3933.

ELEG3124H Honors System & Signal Analysis (Fa) Definition and description of signals and systems; analog, digital, continuous- and discrete-time and frequency analysis of systems, Z- and Fourier Transforms, sampling and signal reconstruction, filter design and engineering applications. Corequisite: Lab component and drill component. Prerequisite: ELEG 2114.

ELEG3143 Probability & Stochastic Processes (Sp) Review of system analysis, probability, random variables, stochastic processes, auto correlation, power spectral density, systems with random inputs in the time and frequency domain, and applications. Pre- or Corequisite: ELEG 3124.

ELEG3143H Honors Probability & Stochastic Processes (Sp) Review of system analysis, probability, random variables, stochastic processes, auto correlation, power spectral density, systems with random inputs in the time and frequency domain, and applications. Corequisite: Lab component. Pre- or Corequisite: ELEG 3124.

ELEG3214 Electronics I (Fa) Introduction to electronic systems and signal processing, operational amplifiers, diodes, non-linear circuit applications, MOSFETS, and BJTs. Course has a lab component. Corequisite: Lab component. Prerequisite: ELEG 2114 and PHYS 2074 and MATH 2574.

ELEG3214H Honors Electronics I (Fa) Introduction to electronic systems and signal processing, operational amplifiers, diodes, non-linear circuit applications, MOSFETS, and BJTs. Corequisite: Lab component. Prerequisite: ELEG 2114 and PHYS 2074 and MATH 2574.

ELEG3224 Electronics II (Sp) Differential pair amplifier, current mirrors, active loads, multistage amplifiers, amplifier frequency response, bode plots, Miller’s theorem, short circuit and open circuit time constant methods, feedback amplifiers, and stability of feedback amplifiers. Corequisite: Lab component. Prerequisite: ELEG 3214 and MATH 2584.

ELEG3224H Honors Electronics II (Sp) Differential pair amplifier, current mirrors, active loads, multistage amplifiers, amplifier frequency response, bode plots, Miller’s theorem, short circuit and open circuit time constant methods, feedback amplifiers, and stability of feedback amplifiers. Corequisite: Lab component. Prerequisite: ELEG 3214 and MATH 2584.

ELEG3304 Energy Systems (Sp) Steady state analysis of DC machines, transformers, induction machines and synchronous machines. Introduction to speed control of electric machines using power electronics. Corequisite: Lab component. Prerequisite: ELEG 2114 or (PHYS 2074 and ELEG 3903).

ELEG3304H Honors Energy Systems (Sp) Steady state analysis of DC machines, transformers, induction machines and synchronous machines. Introduction to speed control of electric machines using power electronics. Corequisite: Lab component. Prerequisite: ELEG 2114 or (PHYS 2074 and ELEG 3903).


ELEG387V Special Topics in Electrical Engineering (Irregular) (1-4) Consideration of current electrical engineering topics not covered in other courses.

ELEG3903 Electric Circuits and Machines (Sp, Fa) Basic electrical principles and circuits, some application to electromechanical systems. For engineering students other than those in electrical engineering. Prerequisite: MATH 2564 and PHYS 2074.

ELEG3924 Microprocessor Systems Design (Fa) Introduction to 8-bit microprocessors and their application. Microprocessor architecture and assembly language; interface devices; system design using microprocessors. Corequisite: Lab component. Prerequisite: ELEG 2903 or ELEG 3913.

ELEG3924H Honors Microprocessor Systems Design (Fa) Introduction to 8-bit microprocessors and their application. Microprocessor architecture and assembly language; interface devices; system design using microprocessors. Corequisite: Lab component. Prerequisite: ELEG 2904.

ELEG3933 Circuits & Electronics (Sp) Basic principles of electric and electronic circuits and devices. Prerequisite: ELEG 3903 or (MATH 2584 and PHYS 2074).

ELEG400VH Honors Senior Thesis (Sp, Su, Fa) (1-3) Prerequisite: senior standing.

ELEG4061 Electrical Engineering Design I (Sp, Fa) Capstone design and application in electrical engineering. Prerequisite: ELEG 3224 and ELEG 3924.

ELEG4061H Honors Electrical Engineering Design I (Sp, Fa) Design and application in electrical engineering. Prerequisite: ELEG 3224 and ELEG 3924.
ELEG4073 Electrical Engineering Design II (Sp, Fa) Design and application in electrical engineering. Prerequisite: ELEG 4061.

ELEG4073H Honors Electrical Engineering Design II (Sp, Fa) Design and application in electrical engineering. Prerequisite: ELEG 4061.

ELEG4203 Semiconductor Devices (Irregular) Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Students may not receive credit for both ELEG 4203 and ELEG 5203. Prerequisite: MATH 2584 and ELEG 3213, or graduate standing.

ELEG4203H Honors Semiconductor Devices (Irregular) Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Prerequisite: MATH 2584.

ELEG4213 MEMS and Microsensors (Fa) The aim of this course is to teach the theory and developments in MEMS, microsensors, NEMS and smart devices and to train the students for the fabrication using microfabrication tools in the clean room. The students will design, fabricate and characterize a MEMS/Microsensor device during the lab hours at the HIDE clean room.

ELEG4223 Design and Fabrication of Solar Cells (Irregular) Solar insolation and its spectral distribution; p-n junction solar cells in dark and under illumination; solar cell parameters efficiency limits and losses; standard cell technology; energy accounting; design of silicon solar cells using simulation; fabrication of designed devices in the lab and their measurements. Students may not receive credit for both ELEG 4223 and ELEG 5393. Prerequisite: ELEG 4203 (Same as ELEG 5223)

ELEG4233 Introduction to Integrated Circuit Design (Fa) Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both ELEG 4233 and ELEG 5923. Prerequisite: ELEG 3214 or (ELEG 3933 and MATH 2584). (Same as CSCE 4333,ELEG 5923)

ELEG4233H Honors Introduction to Integrated Circuit Design (Irregular) Design and layout of large scale digital integrated circuits using NMOS and CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale NMOS and CMOS circuits. Prerequisite: ELEG 3213 or ELEG 3933 and MATH 2584.

ELEG4243 Analog Integrated Circuits (Irregular) Theory and design techniques for linear and analog integrated circuits. Current mirrors, voltage to base emitter matching, active loads, compensation, level shifting, amplifier design techniques, circuit simulation using computer-assisted design programs. Prerequisite: ELEG 3223.

ELEG4253 Nanotechnology (Irregular) The objective of this course is to present a concise and concurrent introduction to Nanotechnology and its applications in engineering and medicine, particularly for nanoelectronics, nanosensors and nanocomputing. This course presents basic aspects of the nanotechnology, its fabrication and imaging technologies and integration of biomolecules with electronic systems for the design of devices in nanoelectronics, nanobioelectronics and Nanomedicine. Prerequisite: Senior standing or instructor permission. May be repeated for up to 6 hours of degree credit.

ELEG4283 Mixed Signal Test Engineering I (Irregular) Overview of mixed signal testing, the test specification process, DC and parametric measurements, measurement accuracy, tester hardware, sampling theory, DSP-based testing, analog channel testing, digital channel testing. Prerequisite: Senior or graduate standing.

ELEG4293 Mixed-Signal Modeling & Simulation (Irregular) Study of basic analog, digital & mixed signal simulation solution methods. Modeling with hardware description languages. Use of state-of-the-art simulators and HDLs. Students may not receive credit for both ELEG 4293 and ELEG 5993. Prerequisite: ELEG 3223

ELEG4303 Introduction to Nanomaterials and Devices (Irregular) This course provides the students with an introduction to nanomaterials and devices. The students will be introduced to the quantization of energy levels in nanomaterials, growth of nanomaterials, electrical and optical properties, and devices based on these nanomaterials, such as tunneling resonant diodes, transistors, detector, and emitters. Graduate students will be given additional or different assignments. Graduate students will be expected to explore and demonstrate an understanding of the material with a greater level of depth and breadth than the undergraduates. Each group of students will have different expectations and grading systems. The instructor will prepare and distribute two distinct syllabi. Corequisite: ELEG 4203. Prerequisite: ELEG 3213 and PHYS 2074. May be repeated for up to 6 hours of degree credit.

ELEG4323 Switch Mode Power Conversion (Irregular) Basic switching converter topologies: buck, boost, buck-boost, Ćuk, flyback, resonant; pulse-width modulation; integrated circuit controllers; switching converter design case studies; SPICE analyses of switching converters; state-space averaging and linearization; and switching converter transfer functions. Prerequisite: ELEG 3223 and ELEG 3123.

ELEG4343 Organic Electronics Technology (Irregular) Students become familiar with recent developments in and process technology for organic material based devices and sensors in the classroom, but also gain hands on experience with fabrication processes using micro-fabrication tools in the lab. Credit cannot be earned for both ELEG 4343 and ELEG 5343.

ELEG4403 Control Systems (Irregular) Mathematical modeling of dynamic systems, stability analysis, control system architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics in microprocessor implementation. Credit not given for both ELEG4403 and ELEG5403. Prerequisite: ELEG 3213. (Same as MEEG 4213)

ELEG4403H Honors Control Systems (Irregular) Mathematical modeling of dynamic systems, stability analysis, control system architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics in microprocessor implementation. Prerequisite: ELEG 3213.

ELEG4413 Advanced Control Systems (Irregular) A second course in linear control systems. Emphasis on multiple-input and multiple-output systems: State-space analysis, similarity transformations, eigenvalue and eigenvector decomposition, stability in the sense of Lyapunov, controllability and observability, pole placement, quadratic optimization. Credit not given for both ELEG 4413 and ELEG 5413. Prerequisite: ELEG 4403 or equivalent course.
ELEG4463L Control Systems Laboratory (Irregular) Experimental study of various control systems and components. The use of programmable logic controllers in the measurement of systems parameters, ladder logic applications, process-control applications, and electromechanical systems. Prerequisite: ELEG 3924 and ELEG 3124.

ELEG4503 Design of Advanced Electric Power Distribution Systems (Irregular) Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Students cannot receive credit for both 4503 and 5503. Prerequisite: ELEG 3304.

ELEG4503H Honors Design of Advanced Electric Power Distribution Systems (Irregular) Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Prerequisite: ELEG 3303.

ELEG4513 Power and Energy Systems Analysis (Irregular) Modeling and analysis of electric power systems: Energy sources and conversion; load flow analysis; reference frame transformations; symmetrical and unsymmetrical fault conditions; load forecasting and economic dispatch. Credit not given for both ELEG 4513 and ELEG 5513. Prerequisite: ELEG 2113.

ELEG4623 Communication Systems (Irregular) Various modulation systems used in communications. AM and FM fundamentals, pulse modulation, signal to noise ratio, threshold in FM, the phase locked loop, matched filter detection, probability of error in PSK, FSK, and DPSK. The effects of quantization and thermal noise in digital systems. Information theory and coding. Pre- or Corequisite: ELEG 4143.

ELEG4703 Introduction to RF and Microwave Design (Irregular) An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Prerequisite: ELEG 3704.

ELEG4703H Honors Introduction to RF and Microwave Design (Irregular) An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Prerequisite: ELEG 3704.

ELEG4733H Honors Introduction to Antennas (Irregular) Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Prerequisite: ELEG 3703.

ELEG4773 Electronic Response of Biological Tissues (Irregular) Understand the electric and magnetic response of biological tissues with particular reference to neural and cardiovascular systems. Passive and active forms of electric signals in cell communication. We will develop the central electrical mechanisms from the membrane channel to the organ, building on those excitation, dielectric models for tissue behavior, Debye, Cole-Cole models. Role of bound and free water on tissue properties. Magnetic response of tissues. Experimental methods to measure tissue response. Applications to Electrocardiography & Electroencephalography, Microwave Medical Imaging. RF Ablation will be discussed that are common to many electrically active cells in the body. Analysis of Nernst equation, Goldman equation, linear cable theory, and Hodgkin-Huxley Model of action potential generation and propagation. High frequency response of tissues to microwave. Prerequisite: ELEG 3703 or equivalent; MATH 2584 or equivalent; basic Biology. (Same as BENG 4283)

ELEG4783 Introduction to Antennas (Irregular) Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Prerequisite: ELEG 3703.

ELEG487V Special Topics in Electrical Engineering (Irregular) (1-3) Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

ELEG487VH Honors Special Topics in Electrical Engineering (Irregular) (1-3) Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

ELEG488V Special Problems (Sp, Su, Fa) (1-3) Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Senior standing. May be repeated for up to 3 hours of degree credit.

ELEG488VH Honors Special Problems (Irregular) (1-3) Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Senior standing.

ELEG4914 Advanced Digital Design (Irregular) To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not get credit for both ELEG/CSCE 4914 and ELEG 5914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114. (Same as CSCE 4914)

ELEG4914H Honors Advanced Digital Design (Irregular) To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not receive credit for both ELEG 4914H and ELEG 5914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114.

ELEG4963 CPLD/FPGA Based System Design (Irregular) Field Programmable logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices. Corequisite: Lab component. Prerequisite: ELEG 2913. (Same as CSCE 4353)

ELEG4963H Honors CPLD/FPGA Based System Design (Irregular) Field Programmable logic devices (FPGAs/CPLDs) have become extremely
popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices. Corequisite: Lab component. Prerequisite: ELEG 2913.

ELEG4983 Computer Architecture (Irregular) Design of a single board computer including basic computer organization, memory subsystem design, peripheral interfacing, DMA control, interrupt control, and bus organization. Prerequisite: ELEG 3923. (Same as CSCE 4213)


ELEG5193L Advanced DSP Processors Laboratory (Irregular) Familiarization with, and use of, advanced DSP processors. Parallel processor configurations, timing consideration, specialized programming techniques, and complex pipelines. Prerequisite: ELEG 5173L.

ELEG5203 Semiconductor Devices (Irregular) Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Students may not receive credit for both ELEG 4203 and ELEG 5203. Prerequisite: Graduate standing.

ELEG5213 Integrated Circuit Fabrication Technology (Irregular) Theory and techniques of integrated circuit fabrication technology; crystal growth, chemical vapor deposition, impurity diffusion, oxidation, ion implantation, photolithography and medullization. Design and analysis of device fabrication using SUPREM and SEDAN. In-process analysis techniques. Student review papers and presentations on state of the art fabrication and device technology. Prerequisite: ELEG 4203.

ELEG5223 Design and Fabrication of Solar Cells (Irregular) Solar insolation and its spectral distribution/ p-n junction solar cells in dark and under illumination; solar cell parameters efficiency limits and losses; standard cell technology; energy accounting; design of silicon solar cells using simulation; fabrication of designed devices in the lab and their measurements. Students cannot receive credit for both ELEG 4223 and ELEG 5393. Prerequisite: ELEG 4203 or ELEG 5203. (Same as ELEG 4223)

ELEG5243L Microelectronic Fabrication Techniques and Procedures (Irregular) The Thin-Film Fabrication course is designed to prepare students to use the thin-film equipment and processes available at the Engineering Research Center's thin-film cleanroom. The process modules to be trained on include lithography, metal deposition and etching, oxide deposition, growth and etching, reactive dry etching, tantalum anodization, photodefínable spin-on dielectric and electroplating. The related metrology modules include microscope inspection, spectrophotometric measurement of oxide, profilometry and four-point probe measurements. Prerequisite: ELEG 5273.

ELEG5253L Integrated Circuit Design Laboratory I (Irregular) Design and layout of large scale digital integrated circuits. Students design, check, and simulate digital integrated circuits which will be fabricated and tested in I.C. Design Laboratory II. Topics include computer-aided design, more in-depth coverage of topics from ELEG 4233, and design of very large scale chips. Prerequisite: ELEG 4233.

ELEG5263L Integrated Circuit Design Laboratory II (Irregular) Students test the I.C. chips they designed in I.C. Design Laboratory I and propose design corrections where needed. Topics include gate arrays, bipolar design, 12L, memory design, and microprocessor design. Prerequisite: ELEG 5253L.

ELEG5273 Electronic Packaging (Irregular) An introductory treatment of electronic packaging, from single chip to multichip, including materials, substrates, electrical design, thermal design, mechanical design, package modeling and simulation, and processing considerations. Credit cannot be earned for both MEEG 5273 and ELEG 5273. Prerequisite: (ELEG 3213 or ELEG 3913) and MATH 2584. (Same as MEEG 5273)

ELEG5283 Mixed Signal Test Engineering II (Irregular) Focus calibrations, DAC testing, ADC testing, DIB design, Design for Test, Data Analysis, and Test Economics. Prerequisite: ELEG 4283.

ELEG5293L Integrated Circuits Fabrication Laboratory (Irregular) Experimental studies of silicon oxidation, solid-state diffusion, photolithographical materials and techniques, bonding and encapsulation. Fabrication and testing of PN diodes, NPN transistors and MOS transistors. Prerequisite: ELEG 5213.

ELEG5313 Power Semiconductor Devices (Irregular) Carrier transport physics; breakdown phenomenon in semiconductor devices; power bipolar transistors, thyristors, power junction field-effect transistors, power field-controlled diodes, power metal-oxide-semiconductor field-effect transistors, and power MOS-bipolar devices. Prerequisite: ELEG 4203.

ELEG5323 Semiconductor Nanostructures I (Irregular) This course is focused on the basic theoretical and experimental analyses of low dimensional systems encountered in semiconductor heterojunctions and nanostructures with the emphasis on device applications and innovations. Prerequisite: ELEG 4203 or instructor permission.

ELEG5333 Semiconductor Nanostructures II (Irregular) This course is a continuation of ELEG 5323 Semiconductors Nanostructures I. It is focused on the transport properties, growth, electrical and optical properties of semiconductor nanostructures, and optoelectronic devices. Prerequisite: ELEG 5323 or instructor permission.

ELEG5343 Organic Electronics Technology (Irregular) Students become familiar with recent developments in and process technology for organic material based devices and sensors in the classroom, but also gain hands-on experience with fabrication processes using micro-fabrication tools in the lab.

ELEG5403 Control Systems (Irregular) Mathematical modeling of dynamic systems, stability analysis, control systems architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics on microprocessor implementation. Credit not given for both ELEG4403 and ELEG5403. Prerequisite: Graduate standing or ELEG 3123.

ELEG5413 Modern Control Systems (Irregular) A second course in linear control systems. Emphasis on multiple-input and multiple-output systems: State-space analysis, similarity transformations, eigenvalue and eigenvector decomposition, stability in the sense of Lyapunov, controllability and observability, pole placement, quadratic optimization. Credit not given for both ELEG 4413 and ELEG 5413. Prerequisite: ELEG 5403 or equivalent.
ELEG5423 Optimal Control Systems (Irregular) Basic concepts, conditions for optimality, the minimum principle, the Hamilton Jacobi equation, structure and properties of optimal systems. Prerequisite: ELEG 4403.


ELEG5463 Biomedical Control Systems (Irregular) Study of control systems analysis and design as applied to human physiological systems: Modeling and dynamics of biological processes, biomedical sensors, time and frequency domain analysis, identification of physiological systems. Overview of medical device regulations. Prerequisite: ELEG 4403 or equivalent.

ELEG5473 Power System Dynamics (Irregular) Modeling, dynamics, and stability analysis of three-phase electric power systems; Design and implementation of control systems that respond to load fluctuations and fault conditions; Integration of distributed energy sources such as wind and solar power; Overview of the related industry and government regulations for power system protection and reliability. Prerequisite: ELEG 3124 and ELEG 3304 or equivalent.


Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Students cannot receive credit for both 4503 and 5503. Prerequisite: ELEG 3304.

ELEG5513 Power Systems Analysis (Irregular) Modeling and analysis of electric power systems: Energy sources and conversion; load flow analysis; reference frame transformations; symmetrical and unsymmetrical fault conditions; load forecasting and economic dispatch. Credit not given for both ELEG 4513 and ELEG 5513. Prerequisite: Graduate standing

ELEG5523 Electric Power Quality (Irregular) The theory and analysis of electric power quality for commercial, industrial and residential power systems. Specific topics include harmonics, voltage sags, wiring and grounding, instrumentation, distributed generation and power electronic systems, and site surveys. Case studies complement the theoretical concepts. Prerequisite: ELEG 3303 or graduate standing.

ELEG5533 Power Electronics and Motor Drives (Irregular) V-1 characteristics of insulated Gate Bipolar Transistors (IGBTs) and MOS-controlled Thyristors (MCTs), design of driver and snubber circuits, induction-, permanent magnet-, and brushless dc-motor drives; and resonant inverters. Prerequisite: Graduate standing or (ELEG 3223 and ELEG 3303).

ELEG5613 Introduction to Telecommunications (Irregular) Overview of public and private telecommunication systems; traffic engineering; communications systems basics, information technology, electromagnetics, and data transmission. Prerequisite: ELEG Graduate Standing or ELEG 3133. (Same as CSCE 5613)

ELEG5653 Artificial Neural Networks (Irregular) Fundamentals of artificial neural networks, both theory and practice. Teaches basic concepts of both supervised and unsupervised learning, and how they are implemented using artificial neural networks. Topics include the perceptron, back propagation, the competitive Hamming net, self-organizing feature maps, topological considerations, requirements for effective generalization, subpattern analysis, etc. Prerequisite: MATH 3403.

ELEG5663 Communication Theory (Irregular) Principles of communications. Channels and digital modulation. Optimum receivers and algorithms in the AWGN and fading channels. Coherent, non-coherent detectors and matched filters. Bounds on the performance of communications, and comparison of communications systems. Background in stochastic processes and probabilities, communication systems is desirable. Prerequisite: Graduate standing. May be repeated for credit.

ELEG5693 Wireless Communications (Irregular) Comprehensive course in fast developing field of wireless mobile/personal telecommunications. Topics include cellular system structures, mobile radio propagation channels, etc. Prerequisite: Graduate standing.

ELEG5703 RF & Microwave Design (Irregular) An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Selected topics for device fabrication and measurements will be covered. Cannot get credit if student has taken ELEG 4703. Prerequisite: ELEG 3704.

ELEG5723 Advanced Microwave Design (Irregular) This course is an advanced course in microwave design building on the introduction to microwave design course. A detailed discussion of active devices, biasing networks, mixers, detectors, Microwave Monolithic Integrated Circuits (MMIC), and wideband matching networks will be provided. In addition, a number of advanced circuits will be analyzed. Prerequisite: ELEG 3704 and ELEG 4703 or ELEG 5703.

ELEG5763 Advanced Electromagnetic Scattering & Transmission (Irregular) Reflection and transmission of electromagnetic waves from a flat interface, the Poynting theorem, the complex and average power, the rectangular wave guides, TE and TM modes, radiation from antennas in free space and introduction to computational electromagnetics. Prerequisite: ELEG 3704.

ELEG5773 Electronic Response of Biological Tissues (Irregular) Understand the electric and magnetic response of biological tissues with particular reference to neural and cardiovascular systems. Passive and active forms of electric signals in cell communication. We will develop the central electrical mechanisms from the membrane channel to the organ, building on those that are common to many electrically active cells in the body. Analysis of Nernst equation, Goldman equation, linear cable
theory, and Hodgkin-Huxley Model of action potential generation and propagation. High frequency response of tissues to microwave excitation, dielectric models for tissue behavior, Debye, Cole-Cole models. Role of bound and free water on tissue properties. Magnetic response of tissues. Experimental methods to measure tissue response. Applications to Electrocardiography & Electroencephalography, Microwave Medical Imaging, RF Ablation will be discussed. Students may not receive credit for both ELEG 4773 and ELEG 5773. Prerequisite: MATH 2584, ELEG 3704 or PHYS 3414, BIOL 2533 or equivalent. (Same as BENG 5283)

ELEG5783 Introduction to Antennas (Irregular) Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Students cannot get credit for ELEG 5783 if they have taken ELEG 4783. Prerequisite: ELEG 3704.

ELEG5801 Written and Oral Communication (Sp, Su, Fa) This course is designed to improve the oral presentations and technical writing of graduate students. Emphasis is placed on writing journal articles, theses and dissertations, and on giving oral presentations at conferences and job interviews. Each student delivers a 20 minute PowerPoint presentation to other students in the class. Prerequisite: Readiness to begin writing thesis.

ELEG587V Special Topics in Electrical Engineering (Irregular) (1-3) Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

ELEG588V Special Problems (Sp, Su, Fa) (1-6) Opportunity for individual study of advanced subjects related to a graduate electrical engineering program to suit individual requirements. May be repeated for up to 6 hours of degree credit.

ELEG5914 Advanced Digital Design (Irregular) To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not receive credit for both ELEG 5914 and ELEG/CSCE 4914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114.

ELEG5923 Introduction to Integrated Circuit Design (Fa) Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both ELEG 4233 and ELEG 5923. Prerequisite: ELEG 3213 or ELEG 3933 and MATH 2584. (Same as CSCE 4333, ELEG 4233)

ELEG5993 Mixed-signal Modeling and Simulation (Irregular) Study of basic analog, digital & mixed signal simulation solution methods. Modeling with hardware description languages. Use of state-of-the-art simulators and HDLs. Students may not receive credit for both ELEG 4293 and ELEG 5993. Prerequisite: ELEG 3223.

ELEG600V Master’s Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

ELEG6801 Graduate Seminar (Sp, Su, Fa) Papers presented by candidates for the Doctor of Philosophy degree in electrical engineering on current research or design problems in the field of electrical engineering.

ELEG700V Doctoral Dissertation (Sp, Su, Fa) (1-18)

Environmental Dynamics (ENDY)

ENDY5043 GIS Analysis and Modeling (Odd years, Sp) Advanced raster topics are examined with a theoretical and methodological review of Tomlin's cartographic modeling principles. Topics vary and include fourier methods, image processing, kriging, spatial statistics, principal components, fuzzy and regression modeling, and multi-criteria decision models. Several raster GIS programs are examined with links to statistical analysis software. Prerequisite: (ANTH 4553 or GEOG 4553) or instructor permission. (Same as ANTH 4653, GEOG 4653)

ENDY5053 Quaternary Environments (Fa) An interdisciplinary study of the Quaternary Period including dating methods, deposits soils, climates, tectonics and human adaptations. (Same as ANTH 5053, GEOG 5053)

ENDY5063 Climate Through Time (Irregular) The earth’s climate history over the last 2 million years and the influence various factors have had on it; compilation and paleoclimatic histories and methods of dating climatic effects. Prerequisite: GEOG 4363 or equivalent. (Same as BIOL 5063, GEOG 5063)

ENDY5113 Global Change (Sp) Examines central issues of global change including natural and human induced climate change, air pollution, deforestation, desertification, wetland loss urbanization, and the biodiversity crisis. The U.S. Global Change Research Program is also examined. Prerequisite: Graduate standing. (Same as GEOG 5113)

ENDY5153 Environmental Site Assessment (Irregular) Principles, problems, and methods related to conducting an environmental site assessment. An applied course covering field site assessment, regulatory documentation, and report preparation. Prerequisite: Graduate standing. (Same as GEOL 5153)

ENDY56013 Environmental Dynamics (Fa) Required course for ENDY doctoral candidates. Overview of Earth Systems: Lithosphere; Hydrosphere, Atmosphere, Biosphere, Cryosphere, and human interaction across Earth systems. Emphasis on understanding of processes within Earth systems and interactions across Earth Systems as they pertain to global self-regulation, secular variation, climate stability, development and sustainability of human societies. Prerequisite: Graduate standing.

ENDY6023 Seminar in Environmental Dynamics (Irregular) Seminar examining specific contemporary topic of topics in Environmental Dynamics. Topics will change with each offering. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

ENDY602V Current Topics Seminar (Irregular) (1-2) Various aspects of the environment will be explored through topic specific seminars. Subject matter will change each semester addressing current environmental issues and research. Seminars will be one or two hours credit.
Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

ENDY6033 Society and Environment (Sp) This course examines the complex interrelationships between human societies and the natural environment. Drawing on diverse and interdisciplinary perspectives in archaeology, ethnography, history, geography, and palaeo-environmental studies, readings and discussion will explore the co-production of social and environmental systems over time. (Same as ANTH 6033)

ENDY6991 Environmental Dynamics Colloquium (Sp, Fa) Weekly meetings for discussion of current research in environmental dynamics. Graduate students must register for colloquium each semester. Colloquium credit does not count towards minimum hours required for the doctorate. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

ENDY700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Graduate standing. May be repeated for up to 18 hours of degree credit.

English (ENGL)

ENGL0002 Basic Writing (Sp, Su, Fa) A required course for entering freshmen with ACT English scores lower than 19 or SAT verbal scores lower than 470. These students must also enroll in ENGL 1013. Composition I, as a corequisite and successfully complete both courses to fulfill the remediation requirement. Credit earned in this course may not be applied to the total required for a degree. Corequisite: ENGL 1013.

ENGL0013 Reading Strategies for College Students (Sp, Su, Fa) The course focuses on developing reading and learning skills and strategies essential for college success with frequent application to college textbooks in a variety of disciplines. University credit is earned, but the course does not count toward a degree. Required of students not meeting U of A reading placement standards.

ENGL1013 Composition I (Sp, Su, Fa) Required of all freshmen unless exempted by the Department of English. Prerequisite is an acceptable score on the English section of the ACT or on another approved test or ENGL 0003. Prerequisite: ENGL 0003 or an acceptable score on the English section of the ACT or another approved test.

ENGL1013H Honors Composition I (Fa) A course for freshmen with high placement scores.

ENGL1023 Composition II (Sp, Su, Fa) Continuation of ENGL 1013.

ENGL1023 Technical Composition II (Sp, Su, Fa) Technical Composition is a continuation of ENGL 1013, intended for Engineering students. Prerequisite: ENGR or WCOb major.

ENGL1023H Honors Composition II (Sp) Continuation of ENGL 1013H.

ENGL1213 Introduction to Literature (Fa) Approaches to reading and writing about fiction, drama, and poetry at the college level.

ENGL2003 Advanced Composition (Sp, Su, Fa) Review course in English composition. Exception for this course may be granted for certain majors that require it by a grade of at least a "B" in ENGL 1013 and ENGL 1023 (or equivalent courses from an accredited institution), by achieving a score of 4 or 5 on the AP Language and Composition Examination and the AP Literature and Composition Examination, or by achieving a 6 HL or 7 HL on the IB Examination in English. Cannot be counted toward a major in English. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2013 Essay Writing (Sp, Su) Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2023 Creative Writing I (Sp, Fa) Beginning level workshop course in which students write original poems and stories. Reading and detailed discussion of poems and stories in anthologies is required. Designed to teach the student the fundamental techniques of fiction and poetry. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2173 Literacy in America (Odd years, Fa) A course that examines the myriad definitions of literacy (and illiteracy) and their connections to issues of social class, occupational status, economic and political structures, educational institutions, cultural organizations, and the media.

ENGL2303 Survey of English Literature from the Beginning through the 17th Century (Sp, Fa) A critical and historical survey of the development of literature in the British Isles from its beginnings to the end of the seventeenth century. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2303C Survey of English Literature from the Beginning through the 17th Century (Fa) A critical and historical survey of the development of literature in the British Isles from its beginnings to the end of the seventeenth century. Lecture and drill. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2313 Survey of English Literature from 1700 to 1900 (Sp, Fa) A critical and historical survey of the development of literature in the British Isles from 1700 to 1900. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2323 Survey of Modern British, Irish, and Postcolonial Literature (Sp, Fa) A survey of modern literature in English written in Great Britain, Ireland, Africa, Asia and the Caribbean. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2343 Survey of American Literature from the Colonial Period through Naturalism (Sp, Fa) A survey of major American writers from the colonial period to 1900. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2353 Survey of Modern American Literature (Sp, Fa) A survey of American writers after 1900. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2413 Introductory Topics in English (Irregular) Students will understand concepts and issues of theme, form, and motif in literary works about the designated topic. Students will improve in their abilities to read literary works carefully and critically and to write about literature correctly and cogently. Topics and content will vary from semester to semester.

ENGL2413C Survey of English Literature from the Beginning through the 18th Century (Sp, Su, Fa) A critical and historical survey of the development of literature in the British Isles from its beginnings to the end of the eighteenth century. Lecture and drill. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL2503 Survey of English Literature from the 18th Century to the Present (Sp) A critical and historical survey of the development of literature in the British Isles from 1700 to 1950. Prerequisite: ENGL 1013 and ENGL 1023.

ENGL3013 Creative Writing II (Irregular) A course for students who wish to attempt original work in the various literary forms. Prerequisite: ENGL 2023 or equivalent.

ENGL3053 Technical and Report Writing (Sp, Fa) Intensive practice in exposition in the scientific areas, including agriculture and engineering. Prerequisite: ENGL 1013 and ENGL 1023 or equivalent.

ENGL3054 Technical and Report Writing (Sp) Intensive practice in exposition in the scientific areas, including agriculture and engineering. Prerequisite: ENGL 1013 and ENGL 1023 or equivalent.

ENGL3113 Folklore (Irregular) Popular literature (ballads, folktales, etc.). Prerequisite: Junior standing.
ENGL3123 Folk and Popular Music Traditions (Irregular) Introduction to folk and popular music studies. Emphasis on American traditions.

ENGL3143 Language and Expressive Culture (Irregular) This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression. (Same as ANTH 3143, COMM 3143)

ENGL3173 Introduction to Linguistics (Irregular) Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, the history of linguistic scholarship. Prerequisite: Junior standing. (Same as ANTH 3173, COMM 3173, WLLC 3173)

ENGL3203 Poetry (Sp, Fa) A critical introduction to the genre.

ENGL3213 Fiction (Sp, Fa) A critical introduction to the genre.

ENGL3223 Drama (Irregular) A critical introduction to the genre.

ENGL3263 African Americans in Film (Irregular) A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypes and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023 and advanced standing. (Same as AAST 3263, COMM 3263, JOUR 3263)

ENGL3283 Topics in Popular Culture and Popular Genres (Irregular) Survey of a broad topical area in popular culture and popular genres, such as science fiction or detective fiction. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3433 Introduction to Chaucer (Irregular) Course designed primarily for undergraduates. Extensive reading in Chaucer’s major works.

ENGL3623 The Bible as Literature (Irregular) The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms. (Same as WLIT 3623)

ENGL3713 Topics in Medieval Literature and Culture (Irregular) Study of the languages, literature and civilization of the British Isles from approximately 500-1500 CE (including Old English, Middle English, Celtic, Anglo-Norman and Scandinavian). Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3723 Topics in Renaissance Literature and Culture (Irregular) The study of literary works of the English Renaissance, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Course content varies. May be repeated for up to 9 hours of degree credit.

ENGL3733 Topics in Restoration and Eighteenth-Century Literature (Irregular) The study of Restoration and eighteenth-century literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3743 Topics in 19th-Century British Literature and Culture (Irregular) The study of literature of the 19th century, with attention to particular themes, genres, authors, literary movements, historical movements, or other organizing principles. Course content varies. May be repeated for up to 9 hours of degree credit.

ENGL3753 Topics in Modern British Literature (Irregular) This course focuses on the literature and culture of a specific period of time within the twentieth century, or on more broadly conceived topics that might organize the century as a whole. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3763 Topics in Postcolonial Literature and Culture (Irregular) Survey of a broad topical area related to postcolonial literature and culture. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3833 Topics in American Literature and Culture to 1900 (Irregular) The study of American literature and culture to 1900, with attention to particular themes, genres, authors, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3853 Topics in African-American Literature and Culture (Irregular) The study of works of African-American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3863 Topics in Literature and Culture of the American South (Irregular) The study of works of literature of the American South, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3903 Special Topics (Irregular) Survey of a broad topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL3923H Honors Colloquium (Irregular) Covers a special topic or issue. Offered as part of the honors program. Prerequisite: honor candidacy (not restricted to candidacy in English). May be repeated for credit.

ENGL399VH Honors Course (Irregular) (1-6) Prerequisite: junior standing. May be repeated for up to 12 hours of degree credit.

ENGL4003 English Language and Composition for Teachers (Fa) Subject matter and methods of approach for the teaching of composition in high school.

ENGL4013 Undergraduate Poetry Workshop (Irregular) Gives close attention to individual manuscripts in a workshop environment. Prerequisite: ENGL 3013 or equivalent.

ENGL4023 Undergraduate Fiction Workshop (Irregular) Gives close attention to individual manuscripts in a workshop environment. Prerequisite: ENGL 3013 or equivalent.

ENGL4073 Film Writing Workshop (Irregular) A workshop in writing the screenplay with close attention given to student manuscripts and adaptations. Prerequisite: Advanced standing.
ENGL4133 Writing Nature (Sp) Study of writings about nature, both scientific and literary. Examination of the basis of each author’s relationship with (and definition of) the natural world while examining the literary/aesthetic aspects of that experience. Prerequisite: ENGL 1023. May be repeated for up to 9 hours of degree credit.

ENGL4133H Honors Writing Nature (Sp) Study of writings about nature, both scientific and literary. Examination of the basis of each author’s relationship with (and definition of) the natural world while examining the literary/aesthetic aspects of that experience. Prerequisite: ENGL 1023. May be repeated for up to 9 hours of degree credit.

ENGL4143 American Film Survey (Irregular) A survey of major American genres, major directors, and films that have influenced the development of motion pictures. (Same as COMM 4143)

ENGL4213 Senior Research Seminar (Irregular) Seminar on a topic in literature in English with a substantial research paper required. May be repeated for up to 3 hours of degree credit.

ENGL4303 Introduction to Shakespeare (Sp, Su, Fa) Extensive reading in Shakespeare’s comedies, histories, tragedies, and nondramatic poetry.

ENGL4503 Introduction to Literary Theory (Irregular) A historical survey of literary theory from Plato onwards.

ENGL4513 Studies in Literary Criticism and Theory (Irregular) A survey of contemporary trends in literary criticism. Emphasis will be placed on engaging the practices of a particular theory. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4533 Studies in Major Literary Movements (Irregular) This course focuses on the literature either of a major literary movement such as Romanticism or Modernism, or of a more specific topic such as Utopianism in twentieth-century writing. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4553 Studies in Major Literary Movements (Irregular) This course focuses on the literature either of a major literary movement such as Romanticism or Modernism, or of a more specific topic such as Utopianism in twentieth-century writing. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4563 Topics in Major Authors (Irregular) The concentrated study of works by one or more major authors. At least one major paper will be required. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4573 Studies in Major Literary Movements (Irregular) This course focuses on the literature either of a major literary movement such as Romanticism or Modernism, or of a more specific topic such as Utopianism in twentieth-century writing. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4583 Topics in Major Authors (Irregular) The concentrated study of works by one or more major authors. At least one major paper will be required. Content varies. May be repeated for up to 9 hours of degree credit.

ENGL4603 Special Studies (Irregular) Concentrated study of a specific topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for up to 3 hours of degree credit.

ENGL4603H Honors Special Studies (Irregular) Concentrated study of a specific topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for credit.

ENGL498V Senior Thesis (Irregular) (1-6)

ENGL5003 Composition Pedagogy (Fa) Introduction to teaching college composition. Designed for graduate assistants at the University of Arkansas.

ENGL5013 Creative Writing Workshop (Irregular)

ENGL5023 Writing Workshop: Fiction (Irregular)

ENGL5033 Writing Workshop: Poetry (Irregular)

ENGL5043 Translation Workshop (Irregular) Problems of translation and the role of the translator as both scholar and creative writer; involves primarily the discussion in workshop of the translations of poetry, drama, and fiction done by the students, some emphasis upon comparative studies of existing translations of well-known works. Primary material will vary. Prerequisite: reading knowledge of a foreign language. (Same as WLLC 504V) May be repeated for up to 15 hours of degree credit.

ENGL507V Creative Non-Fiction Workshop (Irregular) (1-3) The theory and practice of the “New Journalism” with a study of its antecedents and special attention to the use of “fictional” techniques and narrator point of view to make more vivid the account of real people and real events.

ENGL5083 Professing Literature (Irregular) An introduction to the profession of literary scholarship and the teaching of literature at the college level.

ENGL510V Readings in English and American Literature (Irregular) (1-6) Open to Honors candidates and graduate students. May be repeated for credit.

ENGL5173 Studies in Medieval Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5183 The Structure of Present English (Sp) Structural analysis of the language.

ENGL5203 Introduction to Graduate Studies (Irregular) Students learn to carry out and report on literary research. Practical assignments introduce them to the reference collections, professional journals, and microform texts with which scholars work. Meanwhile, advanced explication and composition exercises work on perfecting the students’ control over the design and style of the articles they write.

ENGL5223 Studies in Renaissance Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5233 Craft of Translation: I (Irregular) An examination of the principal challenges that confront translators of literature, including the recreation of style, dialect, ambiguities, and formal poetry; vertical translation; translation where multiple manuscripts exist; and the question of how literal a translation should be.

ENGL5243 Special Topics (Irregular) Designed to cover subject matter not offered in other courses. May be repeated for credit.

ENGL5263 Craft of Fiction: I (Irregular) Such aspects of the genre as scene, transition, character, and conflict. Discussion is limited to the novel.

ENGL5273 Craft of Poetry: I (Irregular) An examination of perception, diction, form, irony, resolution, and the critical theories of the major writers on poetry, such as Dryden, Coleridge, and Arnold.
ENGL5283 Craft of Fiction: II (Irregular) Second part of the study of the techniques of fiction. Discussion is limited to the short story. Prerequisite: ENGL 5263.

ENGL5293 Craft of Poetry: II (Irregular) Second part of the study of the techniques of poetry; independent study of a poet or a problem in writing or criticism of poetry. Prerequisite: ENGL 5273.

ENGL5303 Seminar in Restoration and Eighteenth-Century British Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5313 Introduction to Literary Theory (Irregular) An advanced introductory survey of a number of theoretical approaches to literature.

ENGL5403 Studies in Nineteenth-Century British Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5463 Descriptive Linguistics (Fa) A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages. (Same as ANTH 5473, COMM 5463, WLLC 5463)

ENGL5603 World Literature and Culture in English (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5623 The Bible as Literature (Irregular) The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms. (Same as WLIT 5623)

ENGL5633 English Drama from Its Beginning to 1642 (Irregular) Early forms, Tudor drama, Shakespeare's contemporaries, and Stuart drama to the closing of the theatres.

ENGL5653 Shakespeare: Plays and Poems (Irregular)

ENGL569V Seminar in Film Studies (Irregular) (1-3) Research, discussion; papers on a variety of film genres and areas including the new American film, the science-fiction film, directors, film comedy, the experimental film, criticism, the film musical. (Same as COMM 569V) May be repeated for up to 6 hours of degree credit.

ENGL5703 Studies in American Literature and Culture Before 1900 (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5723 Studies in Literature and Culture of the American South (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5803 Studies in Twentieth-Century American Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5923 Film and Media Studies (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5933 Studies in Popular Culture and Popular Genres (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5943 Studies in Criticism and Literary Theory (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5953 Studies in Literary History (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL5973 Studies in Rhetoric and Composition (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6113 Seminar in Medieval Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6203 Seminar in Renaissance Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6243 Seminar in Special Topics (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6443 Seminar in Nineteenth-Century British Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6513 Seminar in Twentieth-Century British Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6613 Seminar in World Literature and Culture in English (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6713 Seminar in Restoration and Eighteenth-Century British Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6723 Seminar in American Literature and Culture Before 1900 (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6733 Seminar in Literature and Culture of the American South (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6803 Seminar in Twentieth-Century American Literature and Culture (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6933 Seminar in Popular Culture and Popular Genres (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6943 Seminar in Literary Theory (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.
ENGL6953 Seminar in Literary History (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL6973 Seminar in Rhetoric and Composition (Irregular) Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

ENGL698V Master's Thesis (Sp, Su, Fa) (1-6)

ENGL699V Master of Fine Arts Thesis (Sp, Su, Fa) (1-6)

ENGL700V Doctoral Dissertation (Sp, Su, Fa) (1-18)

Environmental Science (ENSC)

ENSC1001L Environmental Science Laboratory (Fa) Laboratory, field trip, and discussion sessions covering the concepts and information allowing students to critically evaluate environmental issues. Topics will include: laboratory safety, recycling, composting, geographic information systems, soil testing, water quality, hazardous wastes, waste disposal, wetlands, wastewater treatment, and sustainable food systems. Laboratory 2 hours/week. Prerequisite or Corequisite: ENSC 1003.

ENSC1003 Environmental Science (Fa) Series of lectures and discussions introducing the topic of environmental science including factors related to water, soil, and air quality. May not be taken for natural science credit by students in Fulbright College.

ENSC3003 Introduction to Water Science (Sp) Properties, occurrence, and description of the types, functions, quality and quantity, potential contaminants, uses, and guiding policies and regulations of the various water resources in the environment. Prerequisite: ENGL 1023 and ENSC 1003 or CHEM 1053 or higher or GEOL 1113 or higher or BIOL 1543.

ENSC3103 Plants and Environmental Restoration (Odd years, Fa) Selection, establishment, and use of plants to promote soil stabilization, water quality, and wildlife habitat. Principles and practices of managing plants for soil remediation, nutrient and sediment trapping, and restoration of plant communities. Prerequisite: CSES 1203 or HORT 2003 or BIOL 1613.

ENSC3221L Ecosystems Assessment Laboratory (Even years, Fa) The purpose of this laboratory is to complement concepts learned in lecture by carrying out experiments that familiarize students with methods used in soil and aquatic ecology. Students will collect samples, analyze and interpret data obtained from soil and water samples. Lab will meet once per week for 3 hours. Corequisite: ENSC 3223.

ENSC3223 Ecosystems Assessment (Even years, Fa) Application of ecological principles for ESWS majors and college students interested in environmental science. Applications of the basic ecological principles of organisms, populations, communities, and ecosystems to gain an appreciation for how large scale patterns in terrestrial and aquatic ecosystems are influenced by small scale interactions among individuals (microorganisms to invertebrate macrofauna) and between individuals and their local environment. Lecture 3 hours per week. Corequisite: ENSC 3221L. Prerequisite: BIOL 1543, CSES 2203, and ENSC 3003.

ENSC3263 Environmental Soil and Water Conservation (Even years, Fa) Effect of land use on water quality. Major sources of agricultural nonpoint pollutants. Best management practices used to minimize water quality impacts. Corequisite: Lab component. Prerequisite: CSES 2203.

ENSC3404V Special Topics (Irregular) (1-3) Studies of selected topics in environmental sciences not available in other courses. May be repeated for up to 12 hours of degree credit.

ENSC4021L Water Quality Laboratory (Fa) Field and laboratory experience in physical, chemical, and biological characteristics of natural waters (rain, river, lake, soil, ground, etc.). Laboratory experiments in water sampling, measurement of water quality parameters such as pH, alkalinity and acidity, redox, hardness, BOD, TSS, etc., and instrumentation. Prerequisite or Corequisite: ENSC 4023.

ENSC4023 Water Quality (Fa) Physical, chemical, and biological characteristics of natural waters (rain, river, lake, soil, ground, etc.). Discussion of water quality parameters such as pH, alkalinity and acidity, redox, hardness, BOD, TSS, etc. Aquatic processes of pollutants and principles of modeling. Prerequisite: CHEM 1123/CHEM 1121L and BIOL 1543/1541L.

ENSC4034 Analysis of Environmental Contaminants (Even years, Sp) Methods of analysis for inorganic and organic contaminants, radionuclides and microorganisms in soil and water. Quality assurance and quality control, sampling protocols, sample handling, instrumentation and data analysis. Lecture 2 hours and laboratory 4 hours per week. Corequisite: Lab component. Prerequisite: CSES 2203 and ENSC 3003.

ENSC4034V Special Topics (Irregular) (1-3) Studies of selected topics in environmental sciences not available in other courses. May be repeated for up to 12 hours of degree credit.

ENSC4026 Environmental Soil Science (Even years, Sp) Study of the behavior of pesticides, toxic organic compounds, metals, nutrients, and pathogenic microorganisms in the soil/plant/water continuum. Lecture 3 hours per week. Prerequisite: PHYS 2013/2011L. Prerequisite: CSES 3214.

ENSC4401 Professional Certification Preparation (Sp) This class is meant to reinforce concepts and skills already learned in other soil and environmental science and related courses and to provide the opportunity to prepare to take a national certification examination. If so chosen,
students may pursue certification as soil or environmental science professionals. Prerequisite: Senior standing.

Entomology (ENTO)

ENTO1023 Insects and People (Sp) Appreciation of the insects and their roles in nature and in civilization for students not required to take ENTO 3013. Biological, historical, social economic, cultural, and medical aspects of insects are discussed. Emphasizes appreciation of entomology and employs many visual aids. Lecture 3 hours per week.

ENTO1031L Field and Laboratory Studies in Entomology (Sp) A systematic survey and identification of insects and other arthropods occurring in woodland, aquatic and agricultural environments with emphasis on identification and observation of insects in their natural settings. Laboratory 2 hours per week. Corequisite: ENTO 1023.

ENTO3011L Introduction to Insect Identification Lab (Fa) Introductory lab course on insect identification, collection, and curation techniques, primarily designed as an intensive add-on to ENTO 3013 for students wanting a more in-depth examination of insect diversity. Insect collection required. Course includes field trips. Students are encouraged to contact instructor before enrolling. Pre- or Corequisite: ENTO 3013. (Same as BIOL 3011L)

ENTO3013 Introduction to Entomology (Fa) Fundamentals of insect biology including structure and function, development, ecology, behavior, plant feeding and disease transmission. Lecture 3 hours/week. Students interested in a more intensive examination of insects, including collection, curation, and identification techniques, should sign up for the separate one credit lab ENTO 3011L. Suggested prerequisite: BIOL 1543. (Same as BIOL 3013)

ENTO400V Special Problems (Sp, Su, Fa) (1-4)

ENTO4013 Insect Behavior and Chemical Ecology (Even years, Sp) Basic concepts in insect senses and patterns of behavioral responses to various environmental stimuli. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory/discussion 2 hours per week. Corequisite: Lab component (Same as BIOL 4013)

ENTO4024 Insect Diversity and Taxonomy (Even years, Fa) Principles and practices of insect classification and identification with emphasis on adult insects. Corequisite: Lab component. Prerequisite: ENTO 3013. (Same as BIOL 4024)

ENTO4043 Apiculture (Odd years, Sp) Review of social behavior of insects and its exemplification in Honeybees. Previous knowledge of basic entomology is helpful but not required. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

ENTO4053 Insect Ecology (Even years, Fa) To develop understanding of important ecological concepts through study of dynamic relationships among insects and their environment. To become familiar with the literature of insect ecology, and interpretation and critique of ecological research. Previous knowledge of basic entomology and/or ecology will be assumed. Corequisite: Lab component. (Same as BIOL 4053)

ENTO410V Special Topics (Irregular) (1-3) Special Topics course available to both undergraduate and graduate students, to address emerging issues and timely topics. This would supplement our graduate-only special topics course. May be repeated for credit.

ENTO4123 Insect Pest Management (Odd years, Sp) Study of principles and concept of insect pest management. Areas covered include survey of arthropod pests and damage, population dynamics, damage thresholds, physiological units, prediction models, surveillance, arthropod sampling, strategies and tactics utilized to maintain pest populations below economic injury levels. Prerequisite: ENTO 3013.

ENTO4133 Advanced Applied Entomology (Even years, Sp) Biology and ecology of major arthropod pests as model applied management systems. Activities include independent study, literature review and group discussions. Knowledge of general entomology and pest management is required. Self-learning modules are available. Lecture 2 hours/week and direct self-study laboratory 2 hours/week. Corequisite: Lab component. Prerequisite: ENTO 3013.

ENTO462V Internship (Irregular) (3-6) Supervised practical work experience in pest management to develop and demonstrate professional competence. A maximum of 6 hours credit per semester or summer session is permitted. Faculty approval of projects proposal prior to enrollment, and written or oral reports are required.

ENTO500V Special Problems (Sp, Su, Fa) (1-4) Prerequisite: graduate standing. May be repeated for up to 4 hours of degree credit.

ENTO5013 Morphology of Insects (Odd years, Fa) Origin, evolution, and functional significance of external insect structure. Structure and function of major internal systems. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory 4 hours per week. Corequisite: Lab component.

ENTO511V Special Topics (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in entomology. Prerequisite: graduate standing. May be repeated for credit.

ENTO5123 Biological Control (Even years, Fa) Theoretical and practical basis for biological control of arthropod pests and weeds via parasites, predators, and pathogens. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

ENTO5133 Applied Molecular Genetics (Even years, Sp) A hands on course in applied molecular genetic techniques used in agricultural research including molecular diagnostics and population genetics. Students will learn how to apply advanced molecular genetic methodologies and Internet database resources to the organism that they are using for their graduate research. Prerequisite: ANSC 3123. (Same as BIOL 5133)

ENTO600V Master’s Thesis (Sp, Su, Fa) (1-6) Prerequisite: graduate standing.

ENTO6071 Seminar (Sp, Fa) Fall: special topics not covered in regular course work. Spring: critical review of research papers in entomology. Seminar will be taken by graduate student majors for both semesters. May be repeated for up to 6 hours of degree credit.

ENTO6113 Insect Physiology and Molecular Biology (Even years, Sp) Overview of insect physiology and modern molecular techniques to study physiological processes. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. (Same as BIOL 6113)

ENTO6213 Insect Toxicology (Odd years, Fa) Toxicology of chemicals to insects and humans including techniques of testing collecting data, and factors that influence reactions to different classes of insecticides. Previous knowledge of organic physiological chemistry is helpful, but not
required. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

ENT0700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: graduate standing.

Educational Statistics and Research Methods (ESRM)

ESRM5013 Research Methods in Education (Sp, Su, Fa) General orientation course which considers the nature of research problems in education and the techniques used by investigators in solving those problems. Prerequisite: graduate standing.

ESRM5393 Statistics in Education and Health Professions (Sp, Su, Fa) Applied statistics course for Master's degree candidates. Includes concepts and operations for frequency distributions, graphing techniques, measures of central tendency and variation, sampling, hypothesis testing, and interpretation of statistical results.

ESRM5653 Educational Assessment (Irregular) Introduction to measurement issues and basic test theory. Focus on types and usage of assessment tools, data management, and analysis and interpretation of educational data. Practical training in the utilization and interpretation of academic achievement data in Arkansas.

ESRM599V Seminar (Irregular) (1-6) May be repeated for up to 6 hours of degree credit.

ESRM600V Master's Thesis (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

ESRM605V Independent Study (Sp, Su, Fa) (1-6)

ESRM6403 Educational Statistics and Data Processing (Sp, Su, Fa) Theory and application of frequency distributions, graphical methods, central tendency, variability, simple regression and correlation indexes, chi-square, sampling, and parameter estimation, and hypothesis testing. Use of the computer for the organization, reduction, and analysis of data (required of doctoral candidates). Prerequisite: ESRM 5013 or equivalent.

ESRM6413 Experimental Design in Education (Sp) Principles of experimental design as applied to educational situations. Special emphasis on analysis of variance techniques used in educational research. Prerequisite: ESRM 6403 or equivalent.

ESRM6423 Multiple Regression Techniques for Education (Fa) Introduction to multiple regression procedures for analyzing data as applied in educational settings, including multicollinearity, dummy variables, analysis of covariance, curvi-linear regression, and path analysis. Prerequisite: ESRM 6403.

ESRM6453 Applied Multivariate Statistics (Sp) Multivariate statistical procedures as applied to educational research settings including discriminant analysis, principal components analysis, factor analysis, canonical correlation, and cluster analysis. Emphasis on use of existing computer statistical packages. Prerequisite: ESRM 6413.

ESRM6513 Advanced Experimental Design (Irregular) Advanced topics of the general linear model, including hierarchical linear modeling and longitudinal analysis with a focus on developing the mathematical and theoretical basis for these methods. Prerequisite: ESRM 6413.

ESRM6523 Advanced Multiple Regression (Irregular) Advanced topics of correlational research methods, including logistic regression and path analysis with a focus on developing the mathematical and theoretical basis for these advanced methodological designs. Prerequisite: ESRM 6423.

ESRM6533 Qualitative Research (Sp, Fa) Introduction of non-quantitative methods, including data collection through interviews, field observation, records research, internal and external validity problems in qualitative research. Prerequisite: ESRM 6403.

ESRM6543 Advanced Qualitative Research (Sp) Preparation for the conduct of qualitative research, structuring, literature reviews, data collection and analysis, and reporting results. Prerequisite: ESRM 6533. May be repeated for up to 6 hours of degree credit.

ESRM6553 Advanced Multivariate Statistics (Irregular) Builds on the foundation provided in Multivariate and introduces techniques that extend methodological elements of canonical, discriminant, factor analytic, and longitudinal analyses, providing the mathematical and theoretical foundations necessary for these designs. Prerequisite: ESRM 6453.

ESRM6613 Evaluation of Policies, Programs, and Projects (Fa) Introduction to evaluation in social science research, including why and how evaluations of programs, projects, and policies are conducted; includes analysis of actual evaluations in a variety of disciplines. Prerequisite: ESRM 6403. (Same as EDRE 6213)

ESRM6623 Techniques of Research in Education (Sp, Su) Use of scientific method in attacking educational problems. Emphasis placed on the planning and design of research studies, collection of reliable and valid data, sampling methods, and analysis and interpretation of data. Prerequisite: ESRM 6403.

ESRM6633 Survey Research Methods (Even years, Sp) The course addresses all phases of conducting a survey research study, including conceptualization, sample selection, instrument development, and analysis and reporting of findings. Prerequisite: ESRM 6403.

ESRM6653 Measurement and Evaluation (Irregular) Fundamentals of measurement: scales, scores, norms, reliability, validity. Test and scale construction and item analysis. Standardized measures and program evaluation models in decision making. Prerequisite: ESRM 6403.

ESRM668V Practicum in Research (Irregular) (1-6) Practical experience in educational research on campus, in school systems, or in other agencies in educational program development.

ESRM6753 Advanced Measurement (Odd years, Sp) Topics of measurement in the psychometric field focusing on modern test theory; item level and test level analyses including differential item functioning, test dimensionality, item response theory; computer adaptive testing, equating, and general evaluation and usage of measurement instruments. Prerequisite: ESRM 6653.

ESRM699V Seminar (Irregular) (1-6) Prerequisite: advanced graduate standing. May be repeated for up to 6 hours of degree credit.

ESRM700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Educational Technology (ETEC)

ETEC5203 Foundations of Educational Technology (Sp, Su, Fa) Provides learners with a comprehensive survey of the major trends, issues, people, processes, and products that have significantly affected the evolution of the field of educational technology.
ETEC5213 Introduction to Educational Media (Sp, Su, Fa) Instruction in selecting, utilizing and evaluating instructional materials and equipment. Prerequisite: Graduate standing.

ETEC5243 Instructional Design Theory & Models (Fa) A study of the instructional development process as it pertains to the design and production of instructional materials which use modern technologies. Goal analysis, objectives, evaluation, instructional strategy development, production of an educational product, and revision of the instructional materials are considered. Prerequisite: Graduate standing.

ETEC5253 Information Technologies (Irregular) Students perform intensive examinations of the role of new technologies and their implications for instructional practice. Emphasis is on identification and evaluation of new technologies in instructional environments. Establishing and maintaining learning environments, exploring selected theories and concepts, assessing potential uses of IT, and utilization of new technologies will occur.

ETEC5263 Grant Writing in Instructional Technology (Sp, Su, Fa) Students will have an opportunity to find grant funding sources, write a grant, and submit an actual grant proposal to an agency for consideration. Will survey research in instructional media over the past 50 years and learn specific criteria for reading and evaluating research reports and articles. Will investigate current issues and topics related to research and grant writing in instructional media.

ETEC5283 Field Experiences in Educational Technology (Sp, Su, Fa) Field experience in educational technology settings. Prerequisite: Graduate standing and 6 hours of graduate work in educational technology.

ETEC5303 Learning with Computers in K-12 Classrooms (Irregular) Students learn how technology can be used to support K-12 classroom environments. Various learning theories and technologies will be explored and projects will be developed that utilize technologies and current learning theories in K-12 settings. Emphasis is on identification, evaluation, and the effective use of technologies to support classroom environments. Prerequisite: Graduate standing.

ETEC5313 Principles in Visual Literacy (Irregular) Students gain understanding of visual literacy research and learn to create graphics that support learning. Literature in the area of visual literacy and learning theories as well as tools that facilitate effective visual literacy will be used to create visuals that are clear, communicate well, and help enhance learner performance.

ETEC5373 Web Design (Irregular) Students design, create, and analyze Web sites by applying processes, standards and technologies used to identify target audience; ensure compliance with copyright and disability laws, measure effectiveness, and coordinate Web design. Topics include copyright and fair use, user and task analysis, usability, accessibility, testing, search engine optimization, and web analytics. Prerequisite: HESC 1213.

HESC2403 Infant and Toddler Development (Sp, Fa) Infant and toddler development from conception through toddlerhood with emphasis on physical, emotional, social, language, and cognitive domains. Theoretical and research-based information will be applied to developmentally appropriate practice. Historical and future perspectives will be explored as will the expanding opportunities for professional work with infants and toddlers. Observations in care centers will be assigned. HESC2413 Family Relations (Sp, Fa) Courtship, marriage, and parenthood in the United States, with attention to cultural and psychological factors which affect relations among family members. On-campus and Web-based delivery sections are offered. Lecture 3 hours per week. Pre- or corequisite: HESC 1501 (applies to HESC majors only).

HESC2433 Child Development (Sp, Fa) Theory, research, and application in physical, cognitive, social, and emotional development of the child, studied in the biocultural context. Begins with prenatal development and continues through adolescence, with special emphasis on early and middle childhood. Prerequisite: HESC 1403 or PSYC 2003.

HESC2443 The Hospitalized Child: Child Life Programming (Sp) Introduces child life programming in health care settings. Topics include: roles and expectations of a Child Life Specialist, importance of play, coping techniques, family advocacy, administration and professionalism. Lecture 3 hours per week.

HESC2453 Analytical Approaches to Research in Human Development and Family Sciences I (Fa) This course is an introduction to analytical approaches to research in human environmental sciences and will examine the principles and practices underlying the development of knowledge in the field. Emphases in this course will be on conducting and evaluating research relevant to human development and family science majors. Students will become critical consumers of research and develop basic skills to design and interpret their own studies. Prerequisite: HESC majors only.

HESC2463 Analytical Approaches to Research in Human Development & Family Sciences II (Sp) This course is an introduction to analytical approaches to research in human development and family sciences and will examine the principles and practices underlying the development of knowledge in the field. Emphases in this course will be on conducting and evaluating data analyses relevant to human environmental sciences majors. Students will become critical consumers of data and develop basic skills to analyze and interpret their own data. Prerequisite: HESC majors only and HESC 2453.

HESC255V Special Topics (Irregular) (1-6) Topics not covered in other courses or a more intensive study of specific topics in the specializations of human environmental sciences. May be repeated for credit.

HESC2603 Purchasing and Cost Control (Fa) Food purchasing with emphasis on specifications. Relationship of food purchasing to available equipment. Receiving, storage, distribution, and inventory control. Meal quality control and costing. Food and nonfood materials, management of the purchasing process, and communication. Specification writing, menu analysis, and costing.

HESC2633 Hotel and Resort Operations Management (Fa) Detailed study of different departments within hotel properties. Emphasis on front office, food and beverage, housekeeping, engineering, security, sales and night audit reporting. Offers a complete approach to the operation of resort properties. Introduces students to the complex world of private club management, including club entertainment, recreation, and golf course management. Prerequisite: HESC 1603.

HESC3003 Apparel Production (Sp, Fa) A study of product development and production and the related vocabulary necessary to communicate professionally within the industry. Laboratory 6 hours per week. Prerequisite: HESC 1023 and HESC 2013.

HESC3013 Introduction to Fashion Merchandising (Sp, Fa) A study of the retailing of fashion. Included are market structures, store philosophies,
job descriptions, responsibilities at the management level, structural operations, work procedures, job performance evaluation, job application, the resume, interdependencies of the retail store with other segments of the fashion industry. Recommended for students seeking a career in business organizations which produce and/or distribute fashion products and services. Prerequisite: HESC 1013. Prerequisite or Corequisite: ECON 2143 or ECON 2013 and ECON 2023.

HESC3033 Fashion Merchandising Methods (Sp, Fa) Exploration of activities associated with the procurement of fashion apparel. A fashion analysis is directed toward apparel demands and the creation of a fashion statement by the use of specific quantitative skills. Course follows fashion item from the designer to the store. Lecture 3 hours per week. Prerequisite: HESC 1013 and Math 1203 or higher.

HESC3203 Human Nutrition (Sp) Fundamental human nutrition; nutritive value of foods and general functions of nutrients based on concepts derived from inorganic and organic chemistry. Examples relating nutrition to disease used as illustrations to deepen understanding of normal nutrition. Lecture 3 hours per week. Pre- or Corequisite: CHEM 2613 and CHEM 2611L or CHEM 3603 and CHEM 3601L. Prerequisite: HESC 1213.

HESC3213 Communication in Nutrition and Dietetics (Fa) A study of communication, nutrition education, health behavior theories, counseling and interviewing techniques, the Academy of Nutrition and Dietetics Code of Ethics, outcomes research, reimbursement, marketing and medical terminology. Prerequisite: HESC 1213.

HESC3401L Child Guidance Laboratory (Sp, Fa) Corequisite: HESC 3402.

HESC3402 Child Guidance (Sp, Fa) Introduction to the guidance system. Focus on discipline techniques that are positive and age/stage appropriate for children ages 3-8. Lecture 2 hours/week plus 1 hour demonstration. Corequisite: HESC 3401L. Prerequisite: HESC 2433.

HESC3423 Adolescent Development (Sp) Physiological and psychological development of the older child and youth, from pre-adolescence to adulthood. Theories of adolescent development. Cross-cultural studies. Teen group influences. Some attention to pathological behaviors. Prerequisite: HESC 1403 or PSYC 2003.

HESC3443 Families in Crisis (Fa) An interdisciplinary perspective on internal and external crises faced by contemporary families, including substance abuse, natural disasters and other crisis events. Students will explore the family processes during such experiences and develop strategies for stress management, coping, and recovery. Lecture 3 hours per week.

HESC3604 Menu, Layout & Food Preparation (Sp, Fa) Preparation and service of food for large groups. Course includes recipe standardization, menu planning, cost control, sanitation, safety, and overall quality assurance. Instruction for planning food flow from receiving to service of meals, including choosing proper equipment for the flow plan and service items, as well as sanitation, maintenance and comparison of personnel requirements. Observation of and experience with quantity food production and use of equipment will also be covered in this class. Lecture 2 hours, laboratory 6 hours per week. Corequisite: Lab component. Prerequisite: HESC 1213, HESC 2112, HESC 2111L, and HESC 2603.

HESC3633 Front Office Revenue Management (Sp) This course offers students the opportunity to acquire the knowledge and skills necessary to provide the front desk services of a lodging establishment. Emphasis is placed on the interrelated elements of front desk operations including financial statements such as balance sheets, profit and loss statements, nightly audit, guest portfolios, and additional hotel charges. This course will examine the front office/desk as a revenue center of a hotel in comparison to other revenue centers on property including: food and beverage, events, catering, gift shops, golf courses, spas, etc. Pre or Corequisite: HESC 2633.

HESC3653 Food Systems Management (Fa) Organization and management of institutional and hospital food service with focus on functions of management, health codes, and professional development. Lecture 3 hours per week. Prerequisite: HESC 1213.

HESC3763L Family Resource Management Laboratory (Fa) Explores management concepts and practices in the lives of individuals and families from a systemic perspective. Lecture 2 hours per week. Laboratory 2 hours per week.

HESC400V Special Problems (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

HESC4023 Advanced Apparel Merchandising (Sp, Fa) Advanced Apparel Merchandising aspects of fashion through interpretation of apparel classification, seasonal cycles, stock emphasis, assortment strategies, target customers, and apparel trends and an overview of marketing communication including advertising, personal selling and sales promotion. Lecture 2 hours, Laboratory 2 hours per week. Prerequisite: HESC 2023, 3013 and 3033.

HESC4033 Advanced Textile Study (Sp, Fa) Use of advanced computer-aided-design (CAD) software to enhance skills in textile studies in a computer laboratory environment. Lecture 2 hours, Laboratory 2 hours per week. Prerequisite: HESC 1053 and HESC 2053.

HESC4043 History of Apparel (Fa) The evolution of clothing from ancient times to the twentieth century with emphasis upon Western civilization. Cultural and economic factors affecting dress and customs associated with dress will be stressed. Lecture three hours per week.

HESC4053 Contemporary Apparel (Sp) Fashion as a social force, the origin, scope, theory, and history of the fashion business, the materials of fashion, the fashion producers, auxiliary fashion enterprises, designers, fashion leaders, and leading market. Lecture three hours per week.

HESC4063 Advanced Apparel Production (Sp, Fa) An advanced study of product development incorporating technology used in the industry for a career in fashion merchandising and/or product development in a computer laboratory environment. Laboratory 6 hours per week. Prerequisite: HESC 3003 and HESC 2013.

HESC4071 Apparel Studies Pre-Internship (Sp) A study of job descriptions, responsibilities at the management level, structural operations, work procedures, job performance evaluations, job application, the resume, and portfolio development in preparation for HESC 4082. Apparel Studies Internship. Lecture 1 hour per week. Prerequisite: Junior Standing or consent of instructor.

HESC4082 Apparel Studies Internship (Sp, Su, Fa) A practical experience in a retail store or in a work situation related to the apparel industry to gain insight into the field of apparel merchandising and operations. Prerequisite: Junior standing and 2.50 cum GPA and HESC 1053, HESC 2013, HESC 2023, HESC 3003, HESC 3013 and HESC 3033, HESC
HESC4103 Experimental Foods (Sp) Application of experimental methods for investigations in cookery. Group and individual problems. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: HESC 2112 and HESC 2111L and CHEM 1123 and CHEM 1121L (or HESC 2112 and HESC 2111L and CHEM 1073 and CHEM 1071L) and AGST 4023 or STAT 2303 or PSYC 2013.

HESC4213 Advanced Nutrition (Fa) Normal nutrition with emphasis on utilization of nutrients. Lecture and reports on current literature 3 hours per week. Prerequisite: CHEM 3813 and HESC 3203.

HESC4223 Life Cycle Nutrition (Fa) Study of normal nutrition emphasizing quantitative needs for nutrients as functions of biologic processes that vary during stages of the life cycle. Attention is given to preconception, pregnancy, childhood and older adults. Prerequisite: HESC 1213 and either (BIOL 2213 and BIOL 2211L or ANSC 3032 and ANSC 3042) or (CHEM 1073 and CHEM 1071L or CHEM 1103 and BIOL 1543 and BIOL 1541L).

HESC4243 Community Nutrition (Sp) Identifying, assessing, and developing solutions for nutritional problems encountered at the local, state, federal, and international levels. Lecture 3 hours per week. Prerequisite: HESC 1213.

HESC425V Food and Nutrition Seminar (Sp) (1-2) Under the direction of the instructor, each student will select a nutrition topic and will then study the current peer-reviewed literature related to that topic, and prepare and present an individual in-depth present for their class. The presentation should be appropriate for presentation to medical doctors and other health care providers in a post-baccalaureate internship or clinical work setting. The class will meet weekly for students to give their individual presentations. Prerequisite: HESC 3203. May be repeated for up to 2 hours of degree credit.

HESC4263 Medical Nutrition Therapy I (Fa) Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Pre- or corequisite: HESC 4213 and HESC 3213. Prerequisite: BIOL 2213 and BIOL 2211L (or ANSC 3042) and CHEM 3813.

HESC4273 Medical Nutrition Therapy II (Sp) Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours per week. Prerequisite: HESC 4263.

HESC4313 Building Family and Community Relationships (Sp) This course will help students interested in early childhood to value the role parents play in schools and the role schools play in a community. Various models of parent involvement will be explored. Students will plan a school-community collaborative which values diverse cultures.

HESC4332 Curriculum and Assessment: Birth to Three Years (Sp) The course will introduce students to curriculum planning and assessment in programs serving children from birth to three years of age. Emphasis will be on responsive relationships and curriculum focused on routines and activities. Prerequisite: HESC 1411L and HESC 2403. Corequisite: HESC 4332L

HESC4332L Curriculum and Assessment: Birth to Three Years Laboratory (Sp) Laboratory. Corequisite: HESC 4332.

HESC4342 Curriculum and Assessment: Three Years through Kindergarten (Fa) Students will plan curriculum and assessment for children three years of age through kindergarten. Emphasis will be on professionalism, philosophy and a code of ethics. Students will interact with young children and facilitate learning and assessment experiences in a program for young children. Prerequisite: HESC 1411L, HESC 3402, and HESC 3402L. Corequisite: HESC 4342L.

HESC4342L Curriculum and Assessment: Three Years through Kindergarten (Fa) Laboratory. Corequisite: HESC 4342.

HESC4373 Field Experience in Birth through Kindergarten Programs (Sp) This course provides the student with interactive and observational experiences with young children in community-based early childhood programs. Prerequisite: HESC 4332, HESC 4332L, HESC 4342, and HESC 4342L.

HESC4423 Adult Development (Fa) Examine individual development beginning with the transition adulthood through middle age; approximate age ranges are 18-60 years. Content focuses on physical, cognitive, psychological, and social changes that occur throughout this period of the life span. The impact of love, work, and family on men's and women's movement through the transitions that comprise adulthood are emphasized. Prerequisite: HESC 1403 or PSYC 2003 and junior standing.

HESC4433 Dynamic Family Interaction (Sp) Examination of family interaction across the lifespan. Methods for enhancing marriage and family relations will be examined. Sources of marital conflict, intergenerational support and negotiations process will be analyzed. Lecture three hours per week. Prerequisite: HESC 2413 and junior standing.

HESC4443 Gerontology (Sp) Physiological and psychological development of the aging individual, extended family relations, service networks for the elderly, and retirement activities. Some attention to housing and care needs of persons in advanced years. Lecture 3 hours per week. Seminar. Prerequisite: HESC 1403 (or HESC 2413 or PSYC 2003 or SCWK 2133) and junior standing. (Same as GERD 4443)

HESC4453 Parenting and Family Dynamics (Sp, Fa) Focus is on influence of parenting and family dynamics on individual development, especially factors in family life which contribute to normal psychological development. Topics include family values, the psychology of sex and pregnancy, the transition to parenthood, childbearing techniques, family influences on cognitive and social development, and changes in family relationships during the life cycle. Prerequisite: HESC 1403 or PSYC 2003 and COMM 1313.

HESC4463 Administration and Leadership in the Helping Professions (Fa) Planning, developing, operating, and evaluating programs in the helping professions, including child care and family-related agencies. Emphasis will be on administrators' roles as leaders in organizations. Topics include facilities, budget, staff development, and policy manuals. Prerequisite: HDFS major and senior standing or permission from instructor.

HESC4472 Child Development Practicum (Sp) Interaction with parents and planning, implementing, and evaluating directed experiences with children ages 3-5 in an NAECY accredited laboratory setting -- U. of A. Nursery School. 2 hours lecture per week. Corequisite: HESC 4472L. Prerequisite: HESC 3402 and HESC 3401L and HESC 2403.

HESC4472L Child Development Practicum Laboratory (Sp) Actual experience facilitating children's learning with classroom activities. Participation in planning, implementing, and evaluating individual children
and program. 6 hours laboratory per week. Corequisite: HESC 4472. Prerequisite: HESC 4202 and HESC 4301L and HESC 2403.

HESC4493 Internship in Human Development and Family Studies (Sp, Su, Fa) The internship experience provides practical experience for students in settings that are designed to serve the needs of individuals and/or families across the life span. Students must work a minimum of 60 hours per credit hour in the setting. Must be taken no sooner than the summer following completion of junior year. May be taken for an additional 3 hours of elective credit if second experience is distinctly different from first internship. Prerequisite: GPA Greater or Equal to 2.75. May be repeated for up to 3 hours of degree credit.

HESC4493 Public Policy Advocacy for Children and Families (Fa) Public policy advocacy as related to children and family issues. Strategies for advocacy will be emphasized. Lecture three hours per week. Prerequisite: RSOC 2603 or SOCI 2013.

HESC455V Special Topics (Irregular) (1-6) Topics not covered in other courses, a focused study of specific topics in the students’ areas of concentration. May be repeated for up to 6 hours of degree credit.

HESC4633 Hospitality Operations and Financial Analysis (Sp) This course is an in-depth, comprehensive study of hospitality operations, with emphasis on financial statements and other accounting reports that are usually used by management staffs for strategic decision making. It includes the application of computer software and human resource management skills. Corequisite: HESC 3633. Prerequisite: AGEC 2142/2141L or WCOB 1023.

HESC4643 Meetings, Events and Convention Management (Fa) Focuses on the planning and management of meetings and conventions in the hospitality industry. Includes catering in food service operations & management for on-premise and off-premise. Course content will also cover working with contract management operations and theme catering. Pre- or Corequisite: AGEC 3303 or MKTG 3433. Prerequisite: HESC 1603

HESC4653 Global Travel and Tourism Management (Fa) Course recounts the history of travel, explores the future, and discusses the components of tourism from a global perspective. An overview of tourism planning at the global level will be presented. A variety of planning theories, procedures and tourism guidelines to meet the diverse needs of travelers, destination communities, hospitality organizations, public, non-governmental organizations, and the private sector will be introduced in this class. Prerequisite: HESC 1603 and PSYC 2003 or SOCI 2013.

HESC4663 Issues & Trends in Hospitality & Tourism (Sp) A study of world trends, issues, and the current state of the industry as well as predictions for the future of lodging, cruise, restaurant, technology, travel and tourism industries with applications to forecasting change in the hospitality and tourism industries. Prerequisite: HESC 1603.

HESC4673 Destination Marketing & Operations (Sp) This course is designed to provide students with a basic understanding of the tasks and processes involved in running a successful destination management organization (DMO). The course places heavy emphasis on destination marketing. Prerequisite: HESC 1603.

HESC4683 Food and Wine Management, Service and Evaluation (Fa) This course provides students with knowledge of the sensory relationship of wine and food and the important role this process has on gastronomic satisfaction and gastronomic tourism. Course topics will include developing and marketing the wine/food tourism product, wine and food pairing as a hierarchical process, gastronomic identity, Old and New World traditions, managing a food and wine program, trends in food and wine, and promoting Arkansas food and wine. Students must have senior standing and be at least 21 years old. Students are required to complete an alcohol compliance education program prior to taking course. Students who may not imbibe for any reason should speak with the instructor about an accommodation and alternative assignments. Prerequisite: Senior standing, hospitality major, completion of alcohol compliance education program, HESC 2112/2111L, and HESC 2603.

HESC4693 Hospitality Management Internship (Sp, Su, Fa) Supervised experience in an instructor approved work/learning situation relating to the hospitality industry in multiple aspects of a hospitality organization. Emphasis on application of knowledge and skills to actual job roles and responsibilities. Requires employment in a hospitality setting for a minimum of 250 clock hours. Prerequisite: Junior standing, restricted to FHNH/HRMN students, & 500 hours of documented work-related hospitality industry experience. May be repeated for up to 6 hours of degree credit.

HESC4753 Family Financial Management (Sp, Fa) Economic considerations of the family in a rapidly changing society. Family finance and consumer problems are emphasized.

HESC4901 Apparel Studies Pre-Study Tour (Sp) (Even years, Fa) A study of specific regional and international fashion markets for apparel studies in preparation for HESC 4912 APST Study Tour. The course examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets. Prerequisite: 2.0 minimum GPA. APST majors only. May be repeated for up to 4 hours of degree credit.

HESC4912 Apparel Studies Study Tour (Su) (Even years, Fa) An on-site study of specific regional and international fashion markets for apparel studies. Course further examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets as outlined in HESC 4901. Course includes study trip; length based upon destination. Additional fees required. Pre- or Corequisite: HESC 4901. Prerequisite: Minimum 2.0 GPA. APST majors only. May be repeated for up to 8 hours of degree credit.

HESC5003 Apparel Studies in the Global Economy (Even years, Fa) Analysis of economic, social and political aspects of the domestic and international textile and apparel industries. Lecture 3 hours.

HESC5013 Advanced Apparel Pattern Design (Sp) Use of computer aided design technology to perform pattern making techniques for apparel production. Laboratory 5 hours per week. Prerequisite: HESC 3003.

HESC5023 Social, Psychological and Cultural Aspects of Dress (Odd years, Fa) Integration of social, psychological and cultural theories as they apply to appearance and clothing behavior. Lecture 3 hours.

HESC502V Special Problems Research (Sp, Su, Fa) (1-6)

HESC5033 Issues and Trends in Textile Studies (Odd years, Sp) Studies of advances in textile science and recent developments in the textile industry. Lecture 3 hours.

HESC5043 Theories and Practices in Apparel Merchandising (Even years, Sp) Theoretical perspectives, concepts and current practices that influence apparel merchandising. Lecture 3 hours.

HESC5223 Nutrition During the Life Cycle (Fa) Study of normal nutrition emphasizing quantitative needs for nutrients as functions of biologic processes that vary during stages of the life cycle. Nutritive needs during pregnancy and childhood are emphasized with some attention
current state of the industry and makes educated predictions to the future
change in the hospitality and tourism industries. This course examines the
forecasts and evaluates their accuracy. This course explores change in the world and applies this to forecasting
income and foreign exchange and is growing rapidly. However, national
The hospitality industry is arguably one of the most important sources of
components of tourism from a global perspective.

HESC5663 Critical Issues and Trends in Hospitality and Tourism (Sp)
This course recounts the history of travel, explores the future, and discusses the
development of the aging individual, extended family relationships, service
and eating behavior are also considered. Lecture 3 hours per week.
On campus and web-based delivery is offered. Prerequisite: Graduate standing and consent of instructor.

HESC522V Readings in Nutrition (Sp) (1-6) Seminar and individual study. Prerequisite: HESC 4213 or HESC 4223 or ANSC 3143.

HESC5263 Medical Nutrition Therapy I (Fa) Principles of medical nutrition therapy with emphasis on Nutrition Care Process, and the
pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours, laboratory 3 hours per week. Prerequisite: Graduate standing and consent of instructor.

HESC5273 Medical Nutrition Therapy II (Sp) Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the
pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours per week. Prerequisite: HESC 5263.

HESC5403 Advanced Studies in Family Relations (Fa) This course examines family relationships in cultural and ethnic contexts. It reviews family theories, current research, and policy issues related to marriage and family in context. The course explores marriage and family relationships across the lifespan. Prerequisite: Graduate standing.

HESC5423 Theories of Human Development (Fa) Classic and contemporary theories and theoretical issues concerning human development across the life span. Prerequisite: Graduate standing.

HESC5433 Advanced Studies in Child Development (Sp) An in-depth examination of issues in development during infancy, early, and middle childhood. Developmental theory and accomplishments/milestones are studied in the biocultural context. Emphasis is on review and analysis of classic and recent research literature and on evaluation of theoretical perspectives based on research evidence.

HESC5443 Gerontology (Sp) Examines physiological and psychological development of the aging individual, extended family relationships, service networks for older adults, and retirement activities. Some attention given to housing and care needs of persons in advanced years. Lecture 3 hours per week, seminar format. Prerequisite: Graduate standing. (Same as GERO 5443)

HESC5463 Research Methodology in Social Sciences (Sp) Logical structure and the method of science. Basic elements of research design; observation, measurement, analytic method, interpretation, verification, presentation of results. Applications to research in the economic and sociological problems of agriculture and Human Environmental Sciences. Prerequisite: Graduate standing. (Same as GERO 5443)

HESC5643 Meetings and Convention Management (Fa) Focuses on the planning and management of meetings and conventions in the hospitality industry.

HESC5653 Global Travel and Tourism Management (Fa) The course recounts the history of travel, explores the future, and discusses the
components of tourism from a global perspective.

HESC5663 Critical Issues and Trends in Hospitality and Tourism (Sp) The hospitality industry is arguably one of the most important sources of income and foreign exchange and is growing rapidly. However, national and international crises have huge negative economic consequences. This course explores change in the world and applies this to forecasting change in the hospitality and tourism industries. This course examines the current state of the industry and makes educated predictions to the future

of the lodging, cruise, restaurant, technology, and travel and tourism industries.

HESC5683 Food and Wine Management, Service and Evaluation (Fa) This course provides students with knowledge of the sensory relationship of wine and food and the important role this process has on gastronomic satisfaction and gastronomic tourism. Course topics will include developing and marketing the wine/food tourism product, wine and food pairing as a hierarchical process, gastronomic identity, Old and New World traditions, managing a food and wine program, trends in food and wine, and promoting Arkansas food and wine. Students must be at least 21 years old. Students are required to complete an alcohol compliance education program prior to taking course. Students who may not imbibe for any reason should speak with the instructor about an accommodation and alternative assignments. Limited to hospitality graduate students only. Prerequisite: Restricted to graduate students in HESC, must be 21 years old, completion of alcohol compliance education program.

HESC600V Master's Thesis (Sp, Su, Fa) (1-6)

HESC700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Health, Human Perform and Recreation (HHPR)

HHPR5353 Research in Health, Human Performance and Recreation (Sp, Su, Fa) Methods and techniques of research in health, human performance and recreation including an analysis of examples of their use and practice in their application to problems of interest to the student.

HHPR560V Workshop (Irregular) (1-6)

HHPR6233 Management in HHPR (Irregular) Deals with principles, procedures, relationships, problems, and current practices in the supervision of health education and kinesiology. Includes management of facilities, programs, personnel, and processes.

HHPR6333 Measurement in HHPR (Odd years, Fa) Competencies for analysis and application of evaluation and measurement in HHPR.

HHPR689V Directed Research (Sp, Su, Fa) (1-6) Laboratory investigations, in basic and applied research.

HHPR699V Seminar (Irregular) (1-3) May be repeated for up to 3 hours of degree credit.

HHPR700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Higher Education (HIED)

HIED4003 Overview-American Higher Education (Fa) A basic course in the study of higher education open to all students seeking careers in colleges and universities. Serves as an introduction to the programs, problems, issues, and trends in higher education.

HIED5033 Student Affairs in Higher Education (Fa) Study of origins, functions, and policies in student personnel services in contemporary 2- and 4-year colleges and universities with emphasis on the student and student development.

HIED5043 The Student in Higher Education (Sp) Provides those who work or plan to work in post secondary educational institutions with an understanding of the student population in contemporary colleges and universities.
HIED504V Practicum in Higher Education (Sp, Su, Fa) (1-6) Students are assigned to a department or agency within or outside the university for professional experience under the joint supervision of on-site personnel and university faculty. Periodic meetings are scheduled for evaluation, discussion, and examination of techniques.

HIED5053 The Community-Junior College (Irregular) An overview of the community college. Topics include the history and philosophy of the community college movement, students, curriculum, state and local campus governance, teaching, student personnel work, finance and issues, problems, and trends.

HIED5073 Management of Higher Education Institutions (Su, Fa) Principles and concepts of management and their application in college and university settings.

HIED5083 History and Philosophy of Higher Education (Sp) An examination of the history and development of higher education including the study of the philosophy, objectives, and functions of various types of institutions.

HIED5173 Individual and Group Management Skills (Even years, Sp) Development of knowledge, skill, and confidence in personal management, interpersonal relations, and structured group facilitation in a higher education setting. Prerequisite: Graduate Standing. For students not enrolled in the Higher Education Leadership program, permission of the instructor.

HIED5643 Internship Seminar in Student Affairs (Sp) The Internship Seminar in Student Affairs is designed to give students the opportunity to work in a functional area of Student Affairs. The seminar will meet as a class five times over the semester. May be repeated for up to 6 hours of degree credit.

HIED574V Internship (Sp, Su, Fa) (1-3) Supervised field experiences in student personnel services, college administration, academic advising, institutional research, development, or other areas of college and university work.

HIED600V Master’s Thesis (Sp, Su, Fa) (1-6)

HIED6013 The Professoriate: Problems and Issues (Sp) An examination of the vital issues and trends affecting college faculty personnel with emphasis upon institutional practices and policies.

HIED6023 Introduction to the Study of Higher Education (Sp, Fa) A requirement for all new doctoral and specialist students. Familiarization with writing requirements, library search procedures, library resources, and program requirements. Prerequisite: Admission to Higher Education program (Ed.S. & Ed.D.)

HIED605V Independent Study (Sp, Su, Fa) (1-6) Provides students with an opportunity to pursue special study in higher education.

HIED6083 Management Skills for Effective Leadership (Irregular) Development of management skills that enhance leadership includes understanding yourself, managing yourself, team building, personnel selection, group and individual decision-making, problem solving, managing conflict, developing valid performance appraisal systems, conducting performance appraisal interview, and other topics of current interest. Prerequisite: Doctoral students in Higher Education or permission of the instructor.

HIED6093 Leading Change (Irregular) An in-depth examination of leadership, change, and culture in postsecondary education.

HIED6183 Organization Development and Change in Higher Education (Irregular) An examination of the theory and practice of organization development as it relates to planned change in colleges and universities.

HIED6323 Design and Evaluation of College Teaching (Irregular) Theory and practice of effective college teaching. Emphasis is placed on preparation and evaluation of instruction.

HIED6343 Strategies for Effective College Teaching (Even years, Sp) An examination of traditional and innovative instructional strategies for use in college teaching.

HIED6423 Trends, Issues and Problems in Higher Education (Odd years, Fa) A study of the current problems and trends related to the field of higher education.

HIED6533 Assessment of Institutional Effectiveness in Higher Education (Sp) The course examines the fundamentals of assessment of learning outcomes and institutional effectiveness and introduces assessment as a tool to inform strategic planning and data-driven decision-making in higher education.

HIED6653 Legal Aspects of Higher Education (Sp) An examination of the legal status of higher education in the United States; the rights and responsibilities of educators and students including fair employment; due process; torts liability and contracts; student rights landmark court decisions; federal and state legislation having an impact on education.

HIED6663 Finance and Fiscal Management (Sp) Higher education finance and budgeting practices: problems, issues, trends, and policy issues in higher education.

HIED6683 Governance and Policy Making in Higher Education (Odd years, Fa) An analysis of governance and policy making affecting the control of colleges and universities. Attention is given to policy generation, governing board supervision, and the impact of institutional, professional, and regional groups as well as community, state, and federal pressures.

HIED6693 Research Techniques in Higher Education (Irregular) Techniques of research applicable to Higher Education

HIED674V Internship (Sp, Su, Fa) (1-6) Supervised field experiences in student personnel services, college administration, college teaching, institutional research, development, or other areas of college and university work.

HIED699V Seminar (Sp, Su, Fa) (1-6) A series of seminar for specialized study into areas of current significance in postsecondary education, such as leadership and planning; organization, development, and change; human resource development and appraisal; the student in higher education; etc. May be repeated for up to 6 hours of degree credit.

HIED700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

History (HIST)

HIST1113 Institutions and Ideas of World Civilizations I (Sp, Fa) Introduces the major civilizations of the world in their historical context to 1500.
HIST1113H Honors Institutions and Ideas of World Civilizations I (Irregular) Study of Western and non-Western civilizations.

HIST1123 Institutions and Ideas of World Civilizations II (Sp, Fa) Introduces the major civilizations of the world in their historical context, since 1500.

HIST1123H Honors Institutions and Ideas of World Civilizations II (Irregular) Study of Western and non-Western civilizations.

HIST2003 History of the American People to 1877 (Sp, Su, Fa) A history of American life encompassing constitutional, political, social, intellectual and economic development from prior to European colonization to 1877.

HIST2013 History of the American People, 1877 to Present (Sp, Su, Fa) A history of American life encompassing constitutional, political, social, intellectual and economic development from Reconstruction to the present.

HIST2013H Honors History of the American People, 1877 to Present (Sp, Su, Fa) A history of American life encompassing constitutional, political, social, intellectual and economic development from Reconstruction to the present. Particular emphasis will be placed on the evolution of American political institutions.

HIST3003 History of Christianity (Irregular) This course surveys the theological, political, and cultural history of Mediterranean Christianity, c. 30-600 CE. Special topics include patristics, Christianity and Empire, and the formation of Christian sacred space.

HIST300V Internship in History (Sp, Su, Fa) (1-3) Work experience in a historical agency arranged by the student under the guidance of a faculty member. Paper required. May be repeated for up to 6 hours of degree credit.

HIST3033 Islamic Civilization (Irregular) A survey of the foundation, evolution, and distinctive character of Islam, with attention to religion, literature, art, architecture, science, and political society. Particular attention given to the development of Islamic doctrines, sectarian movements, and systematic theology. Concludes with a look at Islamic resurgence movements and their place in the contemporary world.

HIST3043 History of the Islamic Middle East (Irregular) Examines the history of the Islamic Middle East from the rise of the Ottoman and Safavid Persian empires up to World War I and then concludes with the issues and patterns of 20th century Middle Eastern political and socio-economic life. Topics include Islam and politics, Arab nationalism, Western imperialism, the Arab-Zionist conflict, petroleum politics, and modernization vs. traditionalism.

HIST3063 Military History (Irregular) Survey of the basic principles and problems of strategy, tactics, and military organization from Alexander the Great to the present. Special attention will be given to the operation of these factors in the American Revolution, the Napoleonic Wars, the American Civil War, and World War II.

HIST3073 Women and Gender in Latin American History (Odd years, Fa) Examines the role of women in Latin America and the Spanish Caribbean from pre-Columbian to modern times. Special emphasis will be on women’s changing gender roles and expectations as they confronted legal, political, and social institutions.

HIST3083 Women and Christianity (Irregular) From Paul to the mystics of the late medieval church, this course considers women’s religious expression, symbolic action, interaction with holy men, and their relationship with the ecclesiastical hierarchy. Other important questions include women’s institutional subordination opportunities for autonomous action.

HIST3203 Colonial Latin America (Odd years, Fa) An introduction to the social, cultural, political and economic formation of Latin America, during the period from 1492 to the movements for independence.

HIST3213 Modern Latin America (Even years, Sp) An investigation of the varying courses of modernization in Latin America, covering popular revolution, urban populism and military dictatorship.

HIST3223 African American History to 1877 (Fa) History of the African American experience in North America emphasizing economic, social, and cultural perspectives. Topics include the African slave trade, the creation of race and racism, the institution of slavery, free community formation in North, and the impact of the Civil War and Reconstruction on African Americans. (Same as AAST 3233)

HIST3243 African American History Since 1877 (Sp) The course will study the major social, political, and economical issues relating to the African American experience beginning with the late post-Reconstruction period and will include, all of the major personalities and influences in the Civil Rights Movement, from 1877 to the present.

HIST3253 The History of Sub-Saharan Africa (Fa) Sub-Saharan African history from the 18th century to the present, with emphasis on the impact of the slave trade, colonization, Independence, and contemporary issues of the post-colonial period. Examination of the ways Africans experienced change in terms of culture, society, economics, gender, religion, politics, and labor.

HIST3263 History of the American Indian (Fa) Survey of North American Indian history from their arrival include pre-Columbian Indian history, the interaction of Indian and white societies, U.S. Government policy, and the role of Indians in modern American culture.

HIST3293 History of Popular Culture (Irregular) Historical survey of the popular arts in American with emphasis upon 20th century. Principal topics are the history of bestsellers, the theatre, popular music, movies, radio, television, and sports.

HIST3323 The West of the Imagination (Irregular) The changing image of the American West from the colonial period to the present and how popular impressions have reflected national attitudes and values. Special attention given to the West’s portrayal in folklore, literature, art, films, and television.

HIST3383 Arkansas and the Southwest (Sp, Fa) Political, economic, social, and cultural development of Arkansas from the coming of the Indian to the 20th century, with special emphasis on Arkansas as a national and regional component.

HIST3434 Modern Imperialism (Odd years, Fa) Examines the causes, nature, and consequences of modern imperialism. The histories of five different empires are studied and compared to give an overview of the phenomenon.

HIST3443 Modern Terrorism (Irregular) Examines the historical foundations and course of modern terrorism, from the French Revolution to the present. Special attention is given to the Irish Republican Army, Baader Meinhoff Gang (Red Army Faction), the American militia movement, and al-Qaeda.
HIST3473 Palestine and Israel in Modern Times (Irregular) History of 19th-20th Century Palestine, Zionism and the founding of modern Israel, and the Palestine-Israel conflict in local and regional perspective.

HIST3513 History of China to 1644 (Fa) An interdisciplinary introduction to Chinese history and culture, beginning with the archaeological record and extending over the dynastic period and into early 17th century. Covers the major events, philosophical and religious traditions of pre-modern China, including Confucianism, Taoism, and Buddhism.

HIST3523 Modern China (Sp) Survey of Chinese culture, society, government and diplomacy between 1644 and the present.

HIST3533 World War II (Sp) Study of the causes, conduct and consequences of the Second World War.

HIST3553 Russia Since 1861 (Sp) Survey of political, cultural and intellectual trends in modern Russia with emphasis upon the Revolutions of 1917, the Soviet Union, and its successor states.

HIST3583 The United States and Vietnam, 1945-1975 (Fa) A survey and analysis of the Vietnam War with special emphasis on its impact on American and Indo-Chinese society.

HIST3593 The 1960s: A World Transformed (Odd years, Sp) The tumultuous decade of the 1960s witnessed global political, social and cultural upheavals. We will study movements for change in the United States, as well as in Europe, China, Vietnam, and Latin American. Topics will include the New Left, the counterculture, and the student, civil rights, antiwar and women’s movements.

HIST3683 Europe in the 19th Century (Even years, Fa) Examines the political, social, and cultural history of Europe during the “long” nineteenth century from the French Revolution of 1789 to the outbreak of the First World War in 1914.

HIST3693 Europe in the 20th Century (Even years, Sp) Examines the political, social, and cultural history of Europe during the twentieth century from the outbreak of the First World War to the collapse of Communist states in Eastern Europe in 1989.

HIST3923H Honors Colloquium (Irregular) Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in history). May be repeated for credit.

HIST3937H Honors Methods (Sp) A practical introduction to historical research and writing. Examines research methods and current theories of interpreting and evaluating the past. Prepares students for honors thesis development and writing. Required for and restricted to history honors students. Prerequisite: Junior standing as honors history major.

HIST3983 Special Topics (Irregular) Historical topics which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

HIST399VH Honors History Thesis (Sp, Su, Fa) (1-6) Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

HIST4003 Greece and the Ancient Near East (Irregular) An introduction to the origins of civilization in the ancient Near East and Greece. Emphasis placed upon the development of agriculture and cities, Hebrew religious ethics, and Greek culture, political institutions, and thought.

HIST4013 Alexander the Great and the Hellenistic World (Irregular) A survey of the achievements of Alexander and the culture of the new world he created. The personality and career of Alexander are examined as well as the rich diversity of the Hellenistic world: trade with India, religious syncretism, and the development of Hellenistic science and philosophy.

HIST4023 The Roman Republic and Empire (Even years, Fa) An introduction to Rome’s cultural development from its origins as a small city state in the 8th century B.C. to its rule over a vast empire extending from Scotland to Iraq. Emphasis is placed upon the causes of Roman expansion during the Republic, the urbanization and Romanization of Western Europe, and the persecution and spread of Christianity.

HIST4043 Late Antiquity and the Early Middle Ages (Even years, Fa) This course examines the political, spiritual, intellectual, and social-economic developments of European history, c. 300-1000 CE. Special topics include the Christianization of the late Roman Empire and Byzantium, as well as the formation of Celtic and Germanic Kingdoms in the West.

HIST4053 Late Middle Ages (Odd years, Sp) This course examines the political, social-economic, intellectual, and spiritual developments of European history, c. 1000-1400 CE. Special topics include monasticism, sacral kingship, the crusades, and the medieval university.

HIST406V Independent Study (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

HIST4073 Renaissance and Reformation, 1300-1600 (Even years, Fa) Examines the history of Europe from the end of the Middle Ages through the Renaissance to the Reformation and Counter-Reformation. Special attention is paid to changes in popular piety, political thought, religious representation, and the discovery of the New World.

HIST4083 Early Modern Europe, 1600-1800 (Odd years, Sp) Begins with the upheaval of the reformation, moves through the crisis of the 17th century and culminates with the democratic revolution of the 18th century. Examines the consolidation of the European state system, the propagation of modern science, discovery of overseas worlds, and the advent of the Industrial Revolution.

HIST4093 The History of African Americans and Social Justice (Even years, Fa) Explores how the United States has extended social justice to African Americans during the nation’s history. Examines social justice for blacks and the impact of historic policies and practices on black life today.

HIST4123 Africa and the Trans-Atlantic Slave Trade (Irregular) Examines the trans-Atlantic slave trade with a primary focus on the role of Africa and Africans in creating the unique economy and culture of the trans-Atlantic world.

HIST4133 Society and Gender in Modern Europe (Odd years, Sp) Changing values and attitudes toward childhood, family life, sexuality, and gender roles in Europe from the Renaissance to the present. The social impact of the Industrial Revolution, urbanization, demographic change, and the two world wars.

HIST4143 Intellectual History of Europe Since the Enlightenment (Even years, Fa) A survey of the major developments in European thought and culture since the emergence of Romanticism. Topics include Romanticism, Darwinism, Marxism, and Modernism.

HIST4153 Modern Ireland, 1798-1948 (Irregular) Examines the course of Irish history from the 1798 United Irishmen rebellion to the 1948 declaration of the Republic of Ireland. Special attention is given to Catholic emancipation, the Great Famine, the Home Rule movements, the Irish War of Independence, and the Emergency (Second World War).
HIST4163 Tudor-Stuart England, 1485-1714 (Even years, Sp) Examines the history of the British Isles from the ascension of Henry VII and the Tudor dynasty until the close of the Stuart Era in 1714. Special attention is given to the English Reformation, the Elizabethan years, the 17th Century Revolutions, and the birth of an overseas Empire.

HIST4173 The Latin American City (Irregular) This course examines the social, political, and cultural aspects of the modern Latin American city from an interdisciplinary perspective. The course includes an introduction to urban studies concepts, and each semester is organized around a specific set of case studies.

HIST4183 Great Britain, 1707-1901 (Even years, Fa) Examines the history of the British Isles from the 1707 Act of Union between Scotland and England until the death of Queen Victoria in 1901. Special attention is given to the spread of Empire, industrialization, and the political, social, and cultural aspects of the Georgian and Victorian Eras.

HIST4193 Great Britain, 1901-2001 (Odd years, Sp) Examines the history of the British Isles from the death of Queen Victoria in 1901 to the reelection of Prime Minister Tony Blair in 2001. Special attention is given to the collapse of the British Empire, the birth of the welfare state, and the challenges inherent in the decline of British world power.

HIST4213 The Era of the French Revolution (Odd years, Fa) France from the salons of the Enlightenment to the Napoleonic Wars. The French Revolution will be explored in terms of politics and personalities, ideas and symbols, class and gender relations, and violence and terror.

HIST4223 France Since 1815 (Even years, Sp) Survey of French history from the overthrow of Napoleon to the 5th Republic, with emphasis on French politics, society, and culture.

HIST4243 Germany, 1789-1918 (Odd years, Fa) Study of German history from the Age of Absolutism to the collapse of the German Empire at the end of the First World War. Special attention is paid to the Enlightenment and Romantic movements; nationalism and the unification of Germany; and evolving conflicts over the political and social order.

HIST4253 Germany, 1789-1918 (Odd years, Fa) Study of German history from the Age of Absolutism to the collapse of the German Empire at the end of the First World War. Special attention is paid to the Enlightenment and Romantic movements; nationalism and the unification of Germany; and evolving conflicts over the political and social order.


HIST4283 Russia to 1861 (Fa) Study of the political, social and cultural development of Russia through the Napoleonic invasion.

HIST4303 Transatlantic Relations, 1919-Present (Irregular) US-Western European Relations, from the Wilsonian era to the present, covering strategic, economic, and cultural aspects.

HIST4313 Islamic Theology and Philosophy, 650-1700 (Irregular) Doctrines and main figures in Islamic theology and philosophy from the origins of Islam through the seventeenth century C.E.

HIST4323 Modern Islamic Thought (Irregular) Main currents in Islamic theology and political philosophy from the Ottoman Empire to the end of the twentieth century.

HIST4333 Middle East, 600-1250 (Even years, Fa) An examination of the origins of modern Middle Eastern societies-Arabic, Turkish, and Persian-with emphasis upon the development of the Islamic faith and culture.

HIST4343 The Middle East since 1914 (Irregular) Middle East since 1914 addresses European colonialism, the rise of new social elites, independence, revolution, globalization, economic self-determination, persistent regional conflicts and ongoing battles over "cultural authenticity".

HIST4373 Mongol & Mamluk Middle East 1250-1520 (Even years, Sp) An examination of Egypt, the Fertile Crescent, and Iran in the period of the Turco-Mongol military elites. Special attention given to the rise of slave and free governments and their roles in shaping Middle East political and social patterns.

HIST4383 The American Civil Rights Movement (Irregular) Introduction to the history and development of the civil rights movement in the United States. (Same as AAST 4383)

HIST4393 Early Modern Islamic Empires, 1300-1750 (Odd years, Sp) An examination of the historical development of the three great Islamic empires in the early modern period- the Ottomans, the Safavids of Iran, and the Mughals of India. Special attention given to imperial expansion, administrative structures, religious-legal establishment, and the formation of distinct traditions in political ideology, historiography, and the arts and sciences.

HIST4403 The American Frontier (Odd years, Fa) American westward expansion and its influence on national institutions and character. Emphasis on the pioneer family and the frontier's role in shaping American society, culture, economy, and politics. Topics include exploration, the fur trade, the cattle kingdom and the mining, farming, and military frontiers.

HIST4413 New Women in the Middle East (Irregular) This course covers the transformation of social and cultural roles of women in the Middle East since the 19th Century. Emphases include political emancipation, religious reformation, artistic representation, and gendered re-definition.

HIST4433 Social and Cultural History of the Modern Middle East (Irregular) An analysis of Middle East history in the 17th-20th centuries which focuses on the social transformation of urban and rural life. Particular emphasis is given to the roles of economics, genealogy, art, and popular culture.

HIST4463 The American Frontier (Odd years, Fa) American westward expansion and its influence on national institutions and character. Emphasis on the pioneer family and the frontier's role in shaping American society, culture, economy, and politics. Topics include exploration, the fur trade, the cattle kingdom and the mining, farming, and military frontiers.

HIST4483 African American Biographies (Irregular) Introduction to the history and intellectual development of famous and not-so-famous African Americans. (Same as AAST 4483)

HIST4493 Religion in America to 1860 (Irregular) History of religion in early America, primarily from a social and cultural perspective. Topics will include region, social class, growth of institutions, slavery, print culture, and social reform in traditions including Protestantism, West African religion, Catholicism, Native American religion, and Judaism.

HIST4503 History of Political Parties in the United States, 1789-1896 (Even years, Fa) Origin and development of the American party system from the implementation of the constitution to the election of McKinley. (Same as PLSC 4303)
HIST4513 History of Political Parties in the United States Since 1896 (Odd years, Sp) Response of the party system to America's emergence as an industrial nation and world power from the election of 1896 to present. (Same as PLSC 4313)

HIST4543 American Social and Intellectual History Since 1865 (Odd years, Sp) Survey of thought and society since the Civil War.

HIST4553 The Recluse in Early East Asia (Even years, Fa) A cross-cultural study of those who chose or needed to leave the world of officialdom for the world of nature in early East Asia.

HIST4563 The Old South, 1607-1865 (Odd years, Fa) Survey of the political, social, and economic development of the antebellum South.

HIST4573 The New South, 1860 to the Present (Even years, Fa) Survey of the development of the Civil War and postwar South to the present.

HIST4583 Arkansas in the Nation (Sp) Designed to provide advanced undergraduate and graduate students with a comprehensive understanding of the full sweep of Arkansas history. The focus will be on social, economic and political history, and historiography.

HIST4603 U.S. Labor History to 1877 (Odd years, Fa) Examines the changing nature of work in U.S. history from 1607 until 1877 including the ways that workers--individually and collectively--understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings.

HIST4613 Colonial America 1600-1763 (Irregular) History of colonial America from 1600 to the end of the Seven Years War emphasizing economic, social, and cultural perspectives. Topics include Native American, French, Spanish, English, Dutch, and Russian interactions in North America and the larger Atlantic World.

HIST4623 Revolutionary America, 1763 to 1789 (Irregular) History of revolutionary America emphasizing economic, social, and cultural perspectives. Topics include historical interpretations of the causes of the war, the impact of war on African Americans, women, loyalists, elite, and poor Americans. The course also examines the formation of the new national government.

HIST4633 Heian Japan (794-1192) (Odd years, Sp) Designed to provide advanced undergraduate and graduate students with a comprehensive approach to the Middle East. Particular emphasis is placed on America's involvement in World War I and World War II. Prerequisite: HIST 2003.

HIST4633H Honors Heian Japan (794-1192) (Odd years, Sp) A study of courtly culture and the religious world of Heian Japan.

HIST4643 Early American Republic, 1789-1828 (Irregular) History of the early United States emphasizing social and cultural perspectives. Topics addressed will include westward expansion, slavery, religion, and economic change.

HIST4653 Antebellum America, 1828-1850 (Irregular) History of antebellum U.S. emphasizing social and cultural perspectives. Topics addressed will include slavery, religion, gender, the market economy, regionalism, and political developments.

HIST4663 Rebellion to Reconstruction, 1850-1877 (Irregular) A survey of political, social, and economic issues from the late antebellum period through Reconstruction. Emphasis is placed on the causes of the Civil War and the problems of postwar America. A brief examination of the Civil War is included.

HIST4673 The American Civil War (Fa) An intensive study of the political, social, military, and economic aspects of the American Civil War period.

HIST4703 Emergence of Modern America, 1876-1917 (Odd years, Fa) A survey of the impact of the Industrial Revolution, Imperialism, and progressivism upon American life and institutions.

HIST4723 America Between the Wars, 1917-1941 (Irregular) The impact of World War I, the 1920s, and the Great Depression upon American society and culture.

HIST4733 Recent America, 1941 to the Present (Irregular) A general survey of American history since World War II with emphasis upon the presidency, reform movements, the Cold War, and cultural developments.

HIST4753 Diplomatic History of the United States, 1776-1900 (Even years, Fa) Survey of American foreign relations from the American Revolution through the Spanish-American War. Principal topics include isolationism, freedom of the seas, manifest destiny and continental expansion, overseas expansion, and the diplomacy of war and peace. Emphasis on the relationship between domestic politics and foreign affairs. Prerequisite: HIST 2003.

HIST4763 Diplomatic History of the United States, 1900-1945 (Odd years, Sp) America's development as a world power. The course examines U.S. relations with Europe, Latin America, and East Asia, plus America's first approach to the Middle East. Particular emphasis is placed on America's involvement in World War I and World War II. Prerequisite: HIST 2003.

HIST4773 Diplomatic History of the US, 1945 to Present (Odd years, Fa) U.S. involvement in world affairs since WWII. The Cold War from an international perspective, including strategies, nuclear deterrence, conflicts, economic developments, cultural relations among allies and adversaries. Post-Cold War scenarios, including war on terrorism.

HIST4783 History of Modern Mexico (Odd years, Sp) This course examines the history of Mexico from the wars of independence to the present. Emphasis will be placed on the turbulent nineteenth century and the Mexican Revolution. Themes covered include colonial legacies, national identities, popular culture, emigration, and relations with the United States.

HIST4793 Colonial India, 1758-1948 (Irregular) Examines the course of Indian history from the 1758 Battle of Plassey to eventual independence from Great Britain in 1948. Special attention is given to India's place within the British Empire, particularly the East Indian Company, the Indian Mutiny, the Raj, the rise of Gandhi, and India's independence movement.

HIST4833H Honors Early Chinese Empires: Mythology, Archaelogy, and Historiography (Sp) A critical introduction to the most important sources and major themes, both textual and archrealogical, for the study of early China.

HIST4853 Early Chinese Empires: Mythology, Archeology, and Historiography (Sp) A critical introduction to the most important sources and major themes, both textual and archrealogical, for the study of early China.

HIST4863 Classical Thought in East Asia (Fa) Introduces the major East Asian philosophical and religious traditions including Confucianism, Daoism, Buddhism, and Shintoism. Read original sources in translation, such as Analects, and explore perspectives that stem from the traditions as they bear on contemporary global issues.
HIST4863H Honors Classical Thought in East Asia (Fa) Introduces the major East Asian philosophical and religious traditions including Confucianism, Daoism, Buddhism, and Shintoism. Read original sources in translation, such as Analects, and explore perspectives that stem from the traditions as they bear on contemporary global issues.

HIST4873 Germany since 1945 (Even years, Fa) Examines the history of Germany since the end of the Second World War including political division and economic recovery, dissident movements in East Germany and alternative cultures in West Germany, reunification in 1990, and the legacy of Nazism and the Holocaust.

HIST4883 Health and Disease: 1500 to the present (Irregular) Explores the emergence of epidemics against the backdrop of the nation state and anxieties over women, the lower classes, and other marginalized groups. The rise of modern health programs illuminates the cultural construction of medicine, the biases of scientific inquiry, and the tensions among paternalism, liberty, and prejudice.

HIST4893 Senior Capstone Seminar (Fa) Required for all history majors. Examines research methods and current theories of interpreting and evaluating the past. Emphasizes skills of analysis, synthesis, and integration. Students produce a primary source-based research paper. A grade of a B or better will satisfy the Fulbright senior writing requirement. Prerequisite: History major; senior standing.

HIST4903 Music and the Arts of Edo Japan (1600-1868) (Odd years, Fa) A music and arts view of urban and popular culture of the Edo period of Japan (1600-1868). Readings drawn from history, literature, aesthetics, religion and science.

HIST4903H Honors Music and the Arts of Edo Japan (1600-1868) (Odd years, Fa) A music and arts view of urban and popular culture of the Edo period of Japan (1600-1868). Readings drawn from history, literature, aesthetics, religion and science.

HIST4913 Reading Japanese Noh as Cultural History (Even years, Fa) A historical, sociocultural, and inter-arts approach to the medieval lyric-drama Japanese Noh, a form of masked theater with roots reaching beyond the 14th century.

HIST4913H Honors Reading Japanese Noh as Cultural History (Even years, Fa) A historical, sociocultural, and inter-arts approach to the medieval lyric-drama Japanese Noh, a form of masked theater with roots reaching beyond the 14th century.

HIST4923 Song China (960-1279) (Odd years, Fa) Examination of the Song dynasty (960-1279) concentrating on the education and role of the scholar-official and the literatus. Readings drawn from history, literature, personal diaries, travel accounts, political memoranda, and scientific writings.

HIST4923H Honors Song China (960-1279) (Odd years, Fa) Examination of the Song dynasty (960-1279) concentrating on the education and role of the scholar-official and the literatus. Readings drawn from history, literature, personal diaries, travel accounts, political memoranda, and scientific writings.

HIST4933 Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Odd years, Fa) Confucian, Daoist, and Buddhist ideas of ideal communities ('utopias'), of imaginary places ('paradise islands'), and of the afterlife ('heaven and hell') in East Asia will be traced in a broad sweep across literature, painting, and the performing arts.

HIST4933H Hon Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Odd years, Fa) Confucian, Daoist, and Buddhist ideas of ideal communities ('utopias'), of imaginary places ('paradise islands'), and of the afterlife ('heaven and hell') in East Asia will be traced in a broad sweep across literature, painting, and the performing arts.

HIST4943 U.S. Labor History, from 1877-present (Even years, Sp) This course will examine the changing nature of work in U.S. history from 1877 until the present. It will pay particular attention to the ways that workers--individually and collectively--understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings.

HIST498V Senior Thesis (Irregular) (1-6)

HIST5023 Historical Methods (Fa) Practical introduction to historical research and writing. Consists of lecture, library reading, and class criticism of research papers. Prerequisite: Graduate standing.

HIST5043 Historiography (Irregular) Survey of the history of historical writing and a study of the important schools and historical interpretation. Prerequisite: Graduate standing.

HIST5053 Reading Seminar in Asian History (Irregular) Concentrated reading in selected specialized areas of Asian history. Prerequisite: Advanced graduate standing. May be repeated for up to 6 hours of degree credit.

HIST506V Readings in European History (Irregular) (1-6) Prerequisite: Graduate standing.

HIST507V Readings in American History (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST508V Research Problems in European History (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

HIST509V Research Problems in American History (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

HIST5103 Reading Seminar in American History (Irregular) Historiographical and bibliographical study of special areas of U.S. history, such as the Age of Jackson, the Civil War, etc. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

HIST511V Research Problems in Latin American History (Irregular) (1-6)

HIST5123 Research Seminar in American History (Irregular) Research projects in selected fields of American history, such as the Civil War, the Age of Jackson, etc. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

HIST5133 Reading Seminar in European History (Irregular) Historiographical and bibliographical study of special periods in European history, such as the Roman Empire, the late Middle Ages, the French Revolution, etc. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

HIST5143 Research Seminar in European History (Irregular) Research projects in selected fields of European history, such as the French Revolution, humanism, etc. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.
HIST5153 Reading Seminar in British History (Irregular) Historiographical and bibliographical study of selected periods of British history. May be repeated for up to 6 hours of degree credit.

HIST5163 Research Seminar in British History (Irregular) Research projects in selected fields of British history. May be repeated for up to 6 hours of degree credit.

HIST517V Readings in Asian History (Irregular) (1-6) Prerequisite: Graduate standing.

HIST518V Research Problems in Asian History (Irregular) (1-18) Prerequisite: graduate standing.

HIST5213 Reading Seminar in Middle Eastern History (Irregular) Historiographical and bibliographical study of special areas of Middle Eastern history. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

HIST522V Readings in Latin America History (Irregular) (1-6)

HIST5233 Research Seminar in Middle Eastern History (Irregular) Research projects in selected fields of Middle Eastern history. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

HIST524V Readings in African History (Irregular) (1-6)

HIST525V Research Problems in African History (Irregular) (1-6)

HIST526V Readings in Middle Eastern History (Irregular) (1-6)

HIST527V Readings in Medieval History (Irregular) (1-6) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST528V Research Problems in Middle Eastern History (Irregular) (1-6)

HIST529V Research Problems in Medieval History (Irregular) (1-6) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5313 Reading Seminar in Latin American History (Irregular) Historiographical and bibliographical study of special areas in Latin American history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5323 Research Seminar in Latin American History (Irregular) A research seminar for the production of a major research project in Latin American history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5333 Readings in Ancient History (Irregular) (1-6) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST534V Research Problems in Ancient History (Irregular) (1-6) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5353 Reading Seminar in Medieval History (Irregular) Historiographical and bibliographical study of special areas in medieval history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5363 Research Seminar in Medieval History (Irregular) A research seminar for the production of a major research project in medieval history.

HIST5373 Research Seminar in Ancient History (Irregular) Historiographical and bibliographical study of special areas in ancient history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5383 Research Seminar in Ancient History (Irregular) A research seminar for the production of a major research project in ancient history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5413 Reading Seminar in African History (Irregular) Historiographical and bibliographical study of selected periods and/or topics in African history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST5423 Research Seminar in African History (Irregular) A seminar for the production of a major research project in selected fields of African history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

HIST570V Special Topics (Irregular) (1-6) Prerequisite: Graduate standing. May be repeated for up to 9 hours of degree credit.

HIST600V Master’s Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

HIST700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy. May be repeated for up to 18 hours of degree credit.

Honors Education (HNED)

HNED3001H Honors Education Thesis Tutorial (Sp, Su, Fa) Designed to provide the foundation for the Honors Thesis. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy. May be repeated for up to 6 hours of degree credit.

HNED3923H Honors Education Seminar (Irregular) Special topics or issues in education for the Honors student. Prerequisite: Honors candidacy. May be repeated for up to 6 hours of degree credit.

HNED400VH Honors Education Thesis/Project (Sp, Su, Fa) (1-3) Prerequisite: Honors candidacy and HNED 3001H.

Horticulture (HORT)

HORT1103 Plants in the Home Environment (Fa) A course describing the aesthetic, nutritional and health value, and other importance of plants to humans. The course will highlight the use and importance of plants and gardening through the ages, study significant gardens to humankind, and introduce students to using plants to their benefit. The use of color, texture, aroma and flavor in the home and landscape will be presented. Basic home gardening, plant care and use will be discussed and practiced.

HORT2003 Principles of Horticulture (Sp, Fa) A course introducing students to the biological and technologies underlying the propagation, production, handling and use of horticultural crops, turf and landscape plants. Students will be introduced to the various disciplines and commodities of horticulture. The use of plants for the benefit of humankind because of their aesthetic and nutritional value will be explored. Previous
instruction in Plant Science, Plant Biology, or general Botany is strongly encouraged. Corequisite: Lab component.

HORT2303 Introduction to Turfgrass Management (Fa) An introductory course in turfgrass management emphasizing turfgrass growth, adaptation, and management. Methods for establishment, fertilization, mowing, cultivation, irrigation, and pest management are presented, and their impact on culture of lawns, golf courses, athletic fields, and other managed turf areas discussed.

HORT3103 Woody Landscape Plants (Fa) Identification, climatic adaptation and landscape design values of woody ornamental trees, shrubs and vines. Lecture 2 hours per week. Corequisite: Lab component.

HORT3113 Herbaceous and Indoor Plant Materials (Odd years, Sp) Identification, culture, and use of annuals, perennials in landscapes and foliage plants in interiors. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

HORT3123 International Horticulture (Sp) Considerable globalization of agriculture has occurred over the past several decades, especially in the area of horticultural crops. This course provides a base of knowledge of the international horticulture industry focusing on principles and practices of development and trade of horticultural crops.

HORT3203 Sustainable Landscape Practices (Sp) New methods of landscape management are required to restore or protect the ecological services provided by developed landscapes. This course is focused on methods for sustainable land management. Included as part of the curriculum is a survey of sustainable management as it applies to site resources, including water, nutrients, energy and biodiversity. Retrofitting existing development, organic lawn, tree, and shrub care, successional landscapes, permaculture, sustainable material selection, and best available equipment will be covered in depth. Prerequisite: HORT 2003.

HORT3303 Vegetable Crops (Irregular) General course in vegetable crops with attention to the principles underlying methods of production and handling related to yields and quality of the products. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: HORT 2003 and CSES 2203.

HORT3403 Turfgrass Management (Even years, Sp) Cultural and management practices of commercial and residential lawns. Principles and practices of mowing, fertilizing, irrigating, and control of weed, disease, and insects. Identification of turfgrass; equipment selection. Corequisite: Lab component. Prerequisite: HORT 2303.

HORT3503 Sustainable and Organic Horticulture (Even years, Fa) This course will provide a base of knowledge of the principles and practices of sustainable, organic, and alternative horticulture management systems. The class will review and evaluate topics including soil biological processes (compost, humus and fertility), pest management, alternative farming systems, and organic agriculture. After this foundation information is studied, the class will study applications of sustainable agriculture principles to production systems such as greenhouse vegetable production, ornamental production, fruit production, and landscape and turf management.

HORT3803 Horticulture Physiology (Sp) This course provides students with a background into the physiological processes of plants with an emphasis on horticultural crops and how the processes relate to horticultural crop production practices. Among the topics covered are photosynthesis, respiration, water relations and morphogenesis. Prerequisite: HORT 2003 and CHEM 1073.

HORT3901 Horticultural Career Development (Sp) A course which presents concepts necessary for developing a career and becoming a professional in horticulture industries or businesses. Concepts of goal setting, effective communication and interpersonal skills, behaviors and performance, portfolio and resume, development and job hunting skills will be presented.

HORT400V Special Problems (Sp, Su, Fa) (1-6) Original investigations on assigned problems in horticulture. Prerequisite: Junior standing.

HORT401V Special Topics in Horticulture, Turf or Landscape (Irregular) (1-6) Topics related to horticulture, turfgrass or landscape science or management not covered in other courses or a more intensive study of a specific topic. May be repeated for credit.

HORT402V Horticulture Judging and Competition Activity (Irregular) (1-6) Training for and participation on horticultural identification, judging and competitive teams. Prerequisite: HORT 2003. May be repeated for up to 4 hours of degree credit.

HORT4033 Professional Landscape Installation and Construction (Even years, Fa) Principles and practices involved in landscape installation and construction. Topics covered include sequencing construction activities, protecting existing trees, landscape soils, selecting plants, planting and transplanting plant materials, wood construction, cement and masonry construction, and low-voltage lighting. Lecture 3 hours per week. Preparatory training in agribusiness or business is suggested. Prerequisite: HORT 2003 and HORT 3103.

HORT4043 Professional Landscape Management (Odd years, Fa) Principles and practices of landscape management and maintenance. Topics include low maintenance and seasonal color design, pruning and hazard tree management, water and fertilizer management, pesticide use, and other maintenance activities. Basic elements of marketing, specifications and contracts, estimating, personnel management, and equipment selection and acquisition relevant for landscape services will be introduced. Preparatory training in agribusiness or business is suggested. Prerequisite: HORT 2003 and HORT 3103.

HORT4143 Plant Propagation (Sp) Principles of plant propagation using seeds, cuttings, grafting, budding, layering, and tissue culture. The physiological basis of propagation is described. Knowledge of plant growth and physiology is needed. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1613 and BIOL 1611L.

HORT4503 Sustainable Nursery Production (Sp) This course addresses issues and practices involved in production of quality woody nursery crops (e.g. trees and shrubs produced in open field and containerized systems).

HORT4603 Practical Landscape Planning (Even years, Sp) Ornamental planting design and landscape planning concepts. Preparing planting plans, materials sheets, and cost estimates for residential properties. Prerequisite: HORT 3103.
HORT462V Horticulture, Landscape, Turf Sciences Internship (Sp, Su, Fa) (1-6) A supervised practical work experience in a horticulture, landscape design, or turf business or research program to gain professional competence and insight into employment opportunities. Prerequisite: COMM 1313. May be repeated for up to 6 hours of degree credit.

HORT4701L Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa) Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Corequisite: HORT 4703.

HORT4703 Greenhouse Management and Controlled Environment Horticulture (Odd years, Fa) Operation and management of greenhouses and other controlled environments used in horticultural production. Emphasis on system design and construction, control of light intensity and photoperiod, heating and cooling systems, substrates, mineral nutrition, water quality and irrigation systems. Prerequisite: HORT 2003 and CHEM 1073.

HORT4801L Greenhouse Crops Production Laboratory (Even years, Sp) Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Corequisite: HORT 4803.

HORT4803 Greenhouse Crops Production (Even years, Sp) Principles and practices of production and marketing of crops commonly grown in controlled environments including flowering containerized herbaceous species, geophytes, annual and perennial bedding plants, hydroponic vegetables and herbs. Prerequisite: HORT 4703.

HORT4903 Golf and Sports Turf Management (Odd years, Fa) Turf management techniques for golf courses, and athletic fields including species selection, root-zone construction and modification, fertilization, mowing, irrigation and pest control. Corequisite: Lab component. Prerequisite: CSES 2203 and CSES 2201L and (HORT 2303 or HORT 3403).

HORT4913 Rootzone Management for Golf and Sports Turf (Odd years, Sp) An overview of the fundamental concepts of the physical and chemical properties of rootzones as related to construction and turfgrass management. Prerequisite: HORT 2303.

HORT4921 Golf Course Operations (Even years, Fa) This course is designed to cover specific aspects of golf course operations that would not be included in traditional turfgrass management courses. Topics will include budgeting, personnel management, tournament setup and operation, dealing with golf club committees, communication, and other relevant topics related to managing a golf course maintenance operation. Prerequisite: HORT 4903.

HORT4932 Turf Best Management Practices (Odd years, Sp) The course covers the impacts of turfgrass management practices on turf quality and the environment. In addition, the identification, biology, and control practices for the major insects, diseases, and weeds that infest turf will be covered. Emphasis will be placed on management strategies that include both chemical and non-chemical approaches to the prevention and control of common turfgrass pests. Prerequisite: HORT 2303 and 6 hours selected from CSES 2003, PLPA 3004, and ENTO 3013.

HORT5001 Seminar (Sp, Fa) Review of scientific literature and oral reports on current research in horticulture. May be repeated for up to 4 hours of degree credit.

HORT503V Special Problems Research (Sp, Su, Fa) (1-6) Original investigations on assigned problems in horticulture. Prerequisite: Graduate standing.

HORT5043 Advanced Plant Breeding (Odd years, Sp) Application of genetic principles to the improvement of crop plants. Presentation of conventional plant breeding methods and special techniques such as polyploidy, interspecific hybridization and induced mutation. Lecture 3 hours per week. Prerequisite: BIOL 2323 and BIOL 2321L (or ANSC 3123 and CSES 4103).

HORT5103 Plant Growth and Development (Fa) This course will focus on environmental and developmental processes of plant growth and development. A student completing this course should have an understanding of the developmental processes of plant growth and how environmental factors interact to affect and control plant growth and development.

HORT5203 Temperature Stress Physiology (Sp) This course will teach students how to apply biological, chemical and physical principles to models of how plants are damaged by temperature extremes and how they change to increase resistance. Student will apply these principles to better understand plant responses to other environmental challenges, including both biotic and abiotic stresses.

HORT5600V Master's Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

HORT602V Special Topics in Horticulture (Irregular) (1-3) Discussion and advanced studies on selected topics in genetics, plant breeding, physiology and culture of horticultural crops. Prerequisite: Graduate standing. May be repeated for credit.

HORT6033 Genetic Techniques in Plant Breeding (Irregular) In-depth study of genetic improvement and techniques. Covers both current and classical literature. Topics to be discussed: haploidy, genetic control of pairing, somatic instability, tissue culture and protoplast fusion, and male sterility. Lecture discussion 3 hours per week. Prerequisite: BIOL 2323 and BIOL 2321L (or ANSC 3123 and CSES 4103 or equivalent).

Human Resources Development (HRDV)

HRDV200V Work Experience (Irregular) (1-30) Credit by advanced standing examination for job knowledge as measured by advisor approved National Occupational Competency Testing Institute (NOCTI) assessments. May be repeated for up to 30 hours of degree credit.

HRDV3113 Skills/Strategies in Human Resource Development (Sp) Addresses the acquisition of professional skills and strategies associated with creating and maintaining adult learning environments. Involves a regular class workshop situation where skills are pract aetum for students to plan, design, promote and execute several Journalism Days events, to include the Roy Reed Lecture, a scholarship reception, a job fair, Senior Salute and a fundraiser. Prerequisite: JOUR 3723 and JOUR 3743.

JOUR4453 Media Planning & Strategy (Sp, Fa) Includes the study of media characteristics, market research, media strategies, media analysis, media-market measurements and the development of media plans. Emphasis is placed on the analysis of major mass media strategies, tactics, and planning. Prerequisite: JOUR 1033 with a grade of C or better, and JOUR 3723 and JOUR 3743, each with a grade of B or better; overall GPA of 2.5 or higher; Journalism major in the AD/PR Sequence; and senior status-minimum of 90 hours completed.
JOUR4463 Campaigns (Sp, Su, Fa) Applying advertising principles and techniques to preparation of a complete campaign; determining agency responsibilities, marketing objectives and research, media mix, and creative strategy. Emphasis also given to campaign presentation delivery, utilizing audio and visual techniques. Prerequisite: A grade of B or better in both JOUR 3723 and JOUR 3743.

JOUR4503 Magazine Writing (Sp) This intensive writing and reporting course is for students with proven feature-writing skills and an interest in the human-interest stories found in such leading magazines as The New Yorker, Esquire, Harper's, the Atlantic, and others. Students will compose magazine-length nonfiction stories on timely subjects under deadline. Stories are submitted for contests and publication, when possible. Prerequisite: JOUR 3123.

JOUR4553 Magazine Editing and Production I (Sp) Instruction with lab work in editing and producing various types of magazines. Course includes magazine design, selecting and editing stories and photographs, laying out the story and photo pages, and other mechanical processes. Lecture 2 hours, laboratory 2 hours per week.

JOUR4863 Television News Reporting I (Sp, Fa) Continuation of JOUR 3072 and JOUR 3071L. Includes the specialized knowledge and skills needed in field reporting, anchoring, writing, and producing news for commercial television. Lab component arranged. Corequisite: Lab component. Prerequisite: JOUR 3072 and JOUR 3071L.

JOUR4873 Television News Reporting II (Sp, Fa) Continuation of JOUR 4863. Laboratory component arranged. Prerequisite: JOUR 4863.

JOUR4883 Advanced Television News Production (Irregular) Continuation of JOUR 4873. Students prepare and present television newscasts for air. Laboratory component arranged. Corequisite: Lab component. Prerequisite: JOUR 4873.

JOUR4903 Community Journalism (Sp) This three-hour course will blend student' reporting and editing skills with instruction on how regional newspapers select and present news to a local audience. This course will instruct students in deciding news stories for regional readers, how those stories can best be written and displayed. The semester goal is to publish a paper. Prerequisite: Junior standing.

JOUR4923 History of the Black Press (Even years, Sp) Covers the historic context of contributions and innovations to U.S. newspapers by African Americans. Also investigates the role of the black press from its beginnings in 1827 through the civil rights movement. Prerequisite: Junior standing. (Same as AAST 4923)

JOUR4981 Journalism Writing Requirement (Sp, Su, Fa) Directed study in conceptualizing, researching, and writing a major paper to meet the college writing requirement; includes presentations and discussions on current issues in journalism news and strategic communication. Students must make a C in order to satisfy the college writing requirement. Prerequisite: 90 hours.

JOUR498VH Honors Journalism Writing Requirement (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

JOUR5003 Advanced Reporting (Irregular) Stresses public affairs coverage, interpretive, investigative, and analytic journalism, involving research, work with documents, public records, and budgets and specialized reporting.

JOUR5033 Critical and Opinion Writing and Commentary (Irregular) Experience in writing and analyzing columns, editorials, criticism, and other forms of opinion and commentary in the media and in examining the media’s role as a forum for opinion and commentary and its impact and influence.

JOUR5043 Research Methods in Journalism (Sp) Research methods of utility in journalism. Emphasis on survey research, electronic data base searching, and traditional library research. Prerequisite: Graduate standing or honors program standing.

JOUR5063 Issues in Advertising and Public Relations (Fa) Seminar course involving the critical examination of the major cultural, social, political, economic, ethical, and persuasion theories and/or issues relevant to advertising and public relations affecting individuals, organizations, societies. Prerequisite: Graduate standing.

JOUR5073 Propaganda and Public Opinion (Irregular) Examines and analyzes the means of influencing and measuring public opinion, with an emphasis on survey research and polling.

JOUR5183 International Mass Communications (Irregular) Examination of national media systems, issues in international communications, the role of the media in coverage of international affairs, and the impact of new technologies on mass communications.

JOUR5193 Professional Journalism Seminar (Irregular) Examination of complex problems encountered by professional journalists with focus on research and analysis of the role of journalism in major social, economic, and political developments. May be repeated for up to 6 hours of degree credit.

JOUR5233 Media and Public Policy (Irregular) Focuses on the interaction between media, politics, government, and public policy, particularly on the impact and influence of the media on the public policy agenda.

JOUR5313 Literature of Journalism (Irregular) A study of superior works of non-fiction journalism, past and present. Includes authors from Daniel Defoe to John McPhee.

JOUR5323 Documentary Production I (Fa) In-depth study of documentary film as non-fiction, long form journalism. Covers subject, funding, research and development, pre-production planning, field production, talent, music, post production, promotion, broadcast and distribution. Required trip to Hot Springs Documentary Film Festival.

JOUR5333 Documentary Production II (Sp) A continuation of JOUR 5323, Documentary Production I. Students photograph, write, and edit a documentary begun in the fall semester. Prerequisite: JOUR 5323.

JOUR5923 History of the Black Press (Even years, Sp) Covers the historic context of contributions and innovations to U.S. newspapers by African Americans. Also investigates the role of the black press from its beginnings in 1827 through the civil rights movement.

JOUR600V Master's Thesis (Sp, Su, Fa) (1-6) Required of all M.A. journalism students.

Kinesiology (KINS)

KINS2223 Motor Development (Sp, Su, Fa) An overview of contemporary motor development and movement theory, developmental hierarchies, and physiological aspects of development throughout the lifespan.

KINS2393 Prevention and Care of Athletic Injuries (Irregular) Introduction to the prevention and care of athletic related injuries. Includes athletic
injury recognition and management. Prerequisite: BIOL 2443 and BIOL 2441L.

KINS2733 Seminar in Exercise Science (Sp) This class will cover special topics for the Exercise Science students in preparation for entry into the profession. In addition to specific topics, students will prepare their resumes and make a formal presentation.

KINS3153 Exercise Physiology (Su, Fa) Examination of effects of exercise on the physiology of the systems of the body. The exploration includes effects during, immediately after, and as long term results of work and exercise. Prerequisite: BIOL 2213/2211L and CHEM 1123/1121L.

KINS3153H Honors Exercise Physiology (Sp, Su, Fa) Examination of effects of exercise on the physiology of the systems of the body. The exploration includes effects during, immediately after, and as long term results of work and exercise. Prerequisite: BIOL 2213/2211L and CHEM 1123/1121L.

KINS3163 Exercise Physiology: Theory and Application (Sp, Fa) Examination of the changes during childhood and adolescence of physiological responses to exercise. The exploration includes the study of the maturation of the body’s functional capacities as it relates to exercise. Designed for Physical Education Teacher Education majors. Prerequisite: BIOL 2443 and BIOL 2441L and KINS 2223; for K-12 or P-12 physical education majors only.

KINS3163H Honors Exercise Physiology: Theory and Application (Sp, Fa) Examination of the changes during childhood and adolescence of physiological responses to exercise. The exploration includes the study of the maturation of the body’s functional capacities as it relates to exercise. Designed for Physical Education Teacher Education majors. Prerequisite: BIOL 2443 and BIOL 2441L and KINS 2223; for K-12 physical education majors only.

KINS3353 Mechanics of Human Movement (Sp, Su, Fa) An introduction to basic analysis of motor skills. No credit given toward major in Zoology. Prerequisite: BIOL 2443 and BIOL 2441L, KINSBS major or by instructor consent.

KINS3353H Honors Mechanics of Human Movement (Sp, Su, Fa) An introduction to basic analysis of motor skills. No credit given toward major in Zoology. Prerequisite: BIOL 2443 and BIOL 2441L, KINSBS major or by instructor consent.

KINS3373 Philosophical/Sociocultural Impact on Kinesiology (Sp, Su, Fa) An introduction to the philosophical and sociocultural impact of Kinesiology.

KINS3533 Laboratory Techniques (Sp, Fa) Practical experience in testing physical fitness in both the laboratory and non-laboratory settings. Prerequisite: KINS 3153.

KINS3533H Honors Lab Techniques (Sp, Fa) Practical experience in testing physical fitness in both the laboratory and non-laboratory settings. Prerequisite: BIOL 2443 and BIOL 2441L, KINSBS major or by instructor consent.

KINS405V Independent Study (Sp, Su, Fa) (1-3) Provides students an opportunity to pursue special study of research problems. May be repeated for up to 12 hours of degree credit.

KINS405VH Honors Independent Study (Sp, Su, Fa) (1-6) Provides students an opportunity to pursue special study of research problems. May be repeated for up to 12 hours of degree credit.

KINS4323 Analytical Basis of Movement Science (Sp) Study of the practical applications of biomechanical and physiological principles. Prerequisite: KINS 3353 and KINS 3533 and PHYS 2013/2011L and CHEM 2613/2611L or CHEM 3603/3601L.

KINS4413 Organization, Management, and Marketing Skills for the Kinesiology Professional (Sp, Fa) Organizational policies, management principles, and marketing skills for the Kinesiology professional.

KINS4773 Performance and Drugs (Sp) The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance. Prerequisite: KINS 3153.

KINS4833 Exercise Applications for Special Populations (Fa) The study of the effects of exercise, exercise training, and other stressors in special groups. A detailed study of the biomechanical and physiological effects of exercise on the elderly, the diabetic, the post-coronary, and the individual with functional limitations. Prerequisite: KINS 3353 and KINS 3533.

KINS4833H Honors Exercise Applications for Special Populations (Fa) The study of the effects of exercise, exercise training, and other stressors in special groups. A detailed study of the biomechanical and physiological effects of exercise on the elderly, the diabetic, the post-coronary, and the individual with functional limitations. Prerequisite: KINS 3353 and KINS 3533.

KINS4903 Internship in Exercise Science (Sp, Fa) Provides opportunities for students in Exercise Science to gain experience in clinics, hospitals, fitness centers, athletic training facilities or related settings. Enrollment is limited to students in exercise science having taken KINS 3353 and KINS 3533. Prerequisite: KINS 3353 and KINS 3533 and COMM 1313. May be repeated for up to 12 hours of degree credit.

KINS5323 Biomechanics I (Fa) Intended to serve as introduction to biomechanics and focuses on scientific principles involved in understanding and analyzing human motion.

KINS5333 Instrumentation in Biomechanics (Irregular) The application of knowledge and skills necessary for data collection for sports analysis. Provides valuable information on instrumentation used specifically in biomechanics. Prerequisite: KINS 5323.

KINS5423 Assessment and Prescriptive Programming in Adapted KINS (Odd years, Sp) Instruction in the assessment, prescription, and use of instruction methods, materials, and equipment relevant to specific handicapping conditions in the adapted physical education setting.

KINS5493 Practicum in Adapted Physical Education (Irregular) Deals with the application of skills, knowledge and concepts necessary for planning, organizing and conducting adapted physical education programs through supervised field experiences.

KINS5513 Physiology Exercise I (Fa) A study of the foundation literature in exercise physiology. Emphasis is placed on the muscular, cardiovascular, and respiratory systems.
KINS5523 Muscle Metabolism in Exercise (Sp) A study of the metabolic changes that occur in muscle as a result of exercise, exercise training, and other stressors. Prerequisite: KINS 5513 or equivalent.

KINS5533 Cardiac Rehabilitation Program (Even years, Sp) An examination of the concepts, design, and implementation of cardiac rehabilitation programs. Emphasis on exercise programs but reference to nutrition, psychology, and other lifestyle interventions.

KINS5543 Cardiovascular Function in Exercise (Fa) Study of the effects of exercise training and other stressors on the cardiovascular system. Detailed study of the components of the cardiovascular system and the responses and adaptations of those components to selected stimuli. Prerequisite: KINS 5513 or equivalent.

KINS5593 Practicum in Laboratory Instrumentation (Su, Fa) Practical experience in testing physical fitness utilizing laboratory equipment. Objective is to quantify physiological parameters, leading to the individualized exercise prescription.

KINS613 Physical Dimensions of Aging (Odd years, Sp) This course will focus on the physiological changes with healthy aging, pathophysiology of age-related diseases, testing issues, exercise interventions, and the psychosocial aspects of aging. Prerequisite: KINS 5513.

KINS643 Motor Learning (Sp) Concepts of motor learning and control are presented. Attention is given to an analysis of the literature in movement control, motor behavior, and motor learning.

KINS74V Internship (Sp) (1-6) May be repeated for up to 6 hours of degree credit.

KINS753 Sport Psychology (Su) Investigation of historical and contemporary research in sport psychology. Prerequisite: HKRD 5353.

KINS773 Performance and Drugs (Sp) The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance. Prerequisite: BIOL 2213 and BIOL 2211L or equivalent.

KINS89V Independent Research (Sp, Su, Fa) (1-3) Development, implementation, and completion of basic or applied research project. Prerequisite: M.S. degree program in exercise and movement sciences and HKRD 5353 and EDFD 5393.

KINS600V Master’s Thesis (Sp, Su, Fa) (1-6)

KINS605V Independent Study (Sp, Su, Fa) (1-3) Provides students with an opportunity to pursue special study of educational problems. May be repeated for up to 3 hours of degree credit.

KINS6323 Biomechanics II (Odd years, Sp) Analysis of human movement with emphasis on sports skills by application of principles of anatomy, kinesiology, and cinematographical analysis. Prerequisite: KINS 5323.

KINS6343 Physiology of Exercise II (Even years, Su) Detailed study of the body systems affected by exercise, the functions of these systems during exercise, the effects of age, sex, body type, and nutrition on capacity for exercise, the techniques of assessing work capacity, and a critical analysis of research literature in this area.

KINS674V Internship (Irregular) (1-3) May be repeated for up to 3 hours of degree credit.

Landscape Architecture (LARC)

LARC1003 Basic Course in the Arts: The American Landscape (Sp, Fa) Mankind’s changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural values. The origins of the environmental, conservation movement and the development of an American land ethic. Appreciation of the relationship of the natural and historic landscape to the arts and the aesthetic importance of open space.

LARC1011 Leadership by Design I (Fa) Introduces time management, study strategies, promotes solutions for maintaining personal health, and develops communication and leadership skills intended to benefit education, career, and the community.

LARC1021 Leadership By Design II (Sp) Introduces time management, study strategies, promotes solutions for maintaining personal health, and develops communication and leadership skills intended to benefit education, career, and the community. Continuation of LARC 1011.

LARC1211 Introduction to Landscape Architecture I (Fa) This course is an interdisciplinary introduction to basic principles of design, the natural landscape, urbanism and the public realm. Lecture is one hour per week. Corequisite: LARC 1315.

LARC1221 Introduction to Landscape Architecture II (Sp) Theoretical, formal, and constructive principles and their impact in the design discipline, modernism and after. Introduction to the intellectual and philosophical foundations of landscape architecture. Lecture 1 hour per week. Prerequisite: LARC 1211 and LARC 1315. Corequisite: LARC 1325.

LARC1315 Landscape Architecture Design I (Fa) Theory and craft of seeing, drawing, and model-building to record and communicate a design. Basic design principles with architectural and natural geometries are introduced and employed. Studio and lecture. Corequisite: LARC 1211.

LARC1325 Landscape Architecture Design II (Sp) Basic concepts of spatial, visual and experiential analysis are used in the investigation and evaluation of designed landscapes. Introduction to three-dimensional spatial organization systems and supporting principles. Continued drawing exercises and analysis graphics leading to design conceptualization. Studio and lecture. Corequisite: LARC 1221. Prerequisite: LARC 1315 and LARC 1211.

LARC2113 Design Communications I (Fa) Introduces basic graphic techniques fundamental to the communication of landscape design and landscape architecture. Emphasis on effective and efficient communication using free-hand and digital tools and techniques most frequently utilized in landscape architecture. Limitations and advantages are identified, and shared principles in both hand and computer graphics are emphasized.

LARC2123 Design Communications II (Sp) Builds upon LARC 2113 by introducing advanced graphic techniques increasingly utilized in the communication of landscape design and planning, and in professional practice. Focus is on software required for sophisticated renderings and visualizations, and to manage and interpret landscape data to the regional level.

LARC2336 Landscape Architecture Design III (Fa) Introduction to design process(s) which responds to site and context. Reinforcement of design principles and organization systems applied to small scale design projects. Studio and lecture. Prerequisite: LARC 1221 and LARC 1325.
LARC2346 Landscape Architecture Design IV (Sp) (Formerly LARC 3345) Expansion of abilities to analyze existing conditions of site and develop methods for interpreting and synthesizing information and perceptions into spatial design proposals. Emphasis on design form and the use of meaning and landscape narrative applied to increased scale projects within a larger or more complex context. Studio and lecture. Prerequisite: LARC 2336 and LARC 3413.

LARC2346H Honors Landscape Architecture Design IV (Sp) (Formerly LARC 3345) Expansion of abilities to analyze existing conditions of site and develop methods for interpreting and synthesizing information and perceptions into spatial design proposals. Emphasis on design form and the use of meaning and landscape narrative applied to increased scale projects within a larger or more complex context. Studio and lecture. Prerequisite: LARC 2336 and LARC 3413 and Honors candidacy.

LARC2714 Landscape Architecture Construction I (Sp) (Grading) Introduction to landscape architectural construction with an emphasis on grading, earthwork computations, and technical drawing skills. Introduction to roadway alignment, the land survey system, and construction documents. Lecture and laboratory.

LARC302V Special Studies (Irregular) (1-6) Individual or group study and practicum and travel involving landscape design, history, and environmental analysis. May be repeated for up to 6 hours of degree credit.

LARC302VH Honors Special Studies (Irregular) (1-6) Individual or group study and practicum and travel involving landscape design, history, and environmental analysis. Prerequisite: Honors candidacy.

LARC303V Special Projects (Irregular) (1-6) Design implementation, study, practicum, and preparation of working drawings. May be repeated for credit.

LARC303VH Honors Special Projects (Irregular) (1-6) Design implementation, study, practicum, and preparation of working drawings. Prerequisite: Honors candidacy.

LARC3356 Landscape Architecture Design V (Fa) (Formerly LARC 3355) Investigation of social behavior as applied to program and design that serves human needs. Projects reflect increased scope, scale, and resolution with a detailed design component. Studio and lecture. Prerequisite: LARC 2346 and LARC 2714; and acceptance into the professional program.

LARC3356H Honors Landscape Architecture Design V (Fa) (Formerly LARC 3355) Investigation of social behavior as applied to program and design that serves human needs. Projects reflect increased scope, scale, and resolution with a detailed design component. Studio and lecture. Prerequisite: LARC 2346 and LARC 2714; honors candidacy and acceptance into the professional program.

LARC3366 Landscape Architecture Design VI (Sp) (Formerly LARC 4365) Investigation of ecological determinism, historic and contemporary planning, and sustainable design as distinct approaches to landscape architecture. Studio and lecture. Prerequisite: LARC 3356.

LARC3366H Honors Landscape Architecture Design VI (Sp) Investigation of ecological determinism, historic and contemporary planning, and sustainable design as distinct approaches to landscape architecture. Studio and lecture. Prerequisite: LARC 3356 and Honors candidacy.

LARC3413 History of Landscape Architecture (Fa) Analysis of the interaction between existing landscapes and human cultural development as reflected in the meaning and organization of landscape designs at community and project scales from the neolithic period to the mid-nineteenth century.

LARC3413H Honors History of Landscape Architecture (Fa) Analysis of the interaction between existing landscapes and human cultural development as reflected in the meaning and organization of landscape designs at community and project scales from the neolithic period to the mid-nineteenth century. Prerequisite: Honors candidacy.

LARC3724 Landscape Construction II (Fa) Introduction to landscape architectural materials and methods of construction and assembly. Emphasis on material properties and how those properties affect the materials use in the landscape and interactions with other materials. Introduction to dimensioning and layout systems and parking requirements with increased complexity of construction documents. Lecture and laboratory.

LARC3724H Honors Landscape Construction II (Fa) Introduction to landscape architectural materials and methods of construction and assembly. Emphasis on material properties and how those properties affect the materials use in the landscape and interactions with other materials. Introduction to dimensioning and layout systems and parking requirements with increased complexity of construction documents. Lecture and laboratory. Prerequisite: Honors candidacy.

LARC3734 Landscape Architecture Construction III (Sp) (Structures) Introduction into the design and fabrication methods of structures in the landscape. Emphasis on statics in calculating sizes and selection of materials for free-standing and retaining walls, and wooden structures. Advanced technical drawing component and computer integration of drawing production. Lecture and laboratory. Prerequisite: LARC 3723.

LARC3734H Honors Landscape Architecture Construction III (Sp) (Structures) Introduction into the design and fabrication methods of structures in the landscape. Emphasis on statics in calculating sizes and selection of materials for free-standing and retaining walls, and wooden structures. Advanced technical drawing component and computer integration of drawing production. Lecture and laboratory. Prerequisite: LARC 3723 and Honors candidacy.

LARC3914 Planting Design I (Fa) Introduction to small scale projects involving use of plant materials in relation to other landscape elements, formulation of a vocabulary of plant materials and preparation of integrated planting plans and applicable specifications. Includes laboratory. Prerequisite: HORT 3103.

LARC3914H Honors Planting Design I (Fa) Introduction to small scale projects involving use of plant materials in relation to other landscape elements, formulation of a vocabulary of plant materials and preparation of integrated planting plans and applicable specifications. Includes laboratory. Prerequisite: HORT 3103 and Honors candidacy.

LARC3933 Cultural Landscape Studies (Su) The examination of landscape forms, and their historic and evolutionary development. Includes study of cultural, political, and site context influences. Required field trip component of study abroad. Prerequisite: LARC 3413 and LARC 3821.

LARC402V Special Studies (Irregular) (1-6) Individual or group study and practicum involving landscape design, planning and management, history and environmental analysis. May be repeated for up to 6 hours of degree credit.
LARC402VH Honors Special Studies (Irregular) (1-6) Individual or group study and practicum involving landscape design, planning and management, history and environmental analysis. May be repeated for up to 6 hours of degree credit.

LARC4033 Theory (Fa) Introduction to seminal theories in landscape architecture, environmental design and planning. Readings and case studies will be utilized to explore interaction and connection across a range of disciplinary theoretical intersections. Prerequisite: LARC 3413 and LARC 4413 or instructor consent.

LARC4033H Honors Theory (Fa) Introduction to seminal theories in landscape architecture, environmental design and planning. Readings and case studies will be utilized to explore interaction and connection across a range of disciplinary theoretical intersections. Prerequisite: LARC 3413 and LARC 4413 or instructor consent.

LARC4123 Urban Form Studies (Su) The examination of urban, village, and suburban form and its influencing forces. Includes study of cultural forces, technological developments, and physical shape, scale, and materials that define urban areas. Required field trip component of study abroad. Prerequisite: LARC 3413 and LARC 3821.

LARC4376 Landscape Architecture Design VII (Fa) (Formerly LARC 4375) Synthesis of all previous course work; an introduction to the theory and practice of larger scale planning with an emphasis on design of systems in urbanizing environments. Studio and lecture. Prerequisite: LARC 3366 and LARC 4413.

LARC4376H Honors Landscape Architecture Design VII (Fa) Synthesis of all previous course work; an introduction to the theory and practice of larger scale planning with an emphasis on design of systems in urbanizing environments. Studio and lecture. Prerequisite: LARC 3366 and LARC 4413 and Honors candidacy.

LARC4381 Senior Project Preparation (Sp) Definition and planning of personally selected senior demonstration project. Requires full documentation of topical research, program development, site data collection, site analysis, and site project base maps. Studio and lecture. Prerequisite: LARC 4376

LARC4381H Honors Senior Project Preparation (Sp) Definition and planning of personally selected senior demonstration project. Requires full documentation of topical research, program development, site data collection, site analysis, and site project base maps. Studio and lecture. Prerequisite: LARC 4376 and Honors candidacy.

LARC4413 Contemporary Landscape Architecture (Sp) Critical study and analysis of landscape architecture from mid-nineteenth century to the present. Emphasis on the philosophical and design theories that have influenced the form of gardens, parks, and cities.

LARC4413H Honors Contemporary Landscape Architecture (Sp) Critical study and analysis of landscape architecture from mid-nineteenth century to the present. Emphasis on the philosophical and design theories that have influenced the form of gardens, parks, and cities. Prerequisite: Honors candidacy.

LARC4714 Landscape Architecture Construction IV (Fa) (Systems) Introduction to systems of landscape architectural construction including stormwater management, lighting, irrigation, water features, and erosion control. Emphasis on an advanced grading and landform manipulation skills, and stormwater system design and calculations. Significant integration of computer generated drawings. Lecture and laboratory. Prerequisite: LARC 2714.

LARC4714H Honors Landscape Architecture Construction IV (Fa) (Systems) Introduction to systems of landscape architectural construction including stormwater management, lighting, irrigation, water features, and erosion control. Emphasis on an advanced grading and landform manipulation skills, and stormwater system design and calculations. Significant integration of computer generated drawings. Lecture and laboratory. Prerequisite: LARC 2714 and Honors candidacy.

LARC5053 Historic Landscape Preservation (Irregular) Survey of historic preservation as a profession and the emerging cultural landscape preservation movement. Introduction to preservation principles as described by the Secretary of the Interiors Standards and Guidelines. Analysis of case studies will reinforce basic philosophies and introduce preservation approaches. Prerequisite: LARC 3413 and LARC 4413.

LARC5053H Honors Historic Landscape Preservation (Irregular) Survey of historic preservation as a profession and the emerging cultural landscape preservation movement. Introduction to preservation principles as described by the Secretary of the Interiors Standards and Guidelines. Analysis of case studies will reinforce basic philosophies and introduce preservation approaches. Prerequisite: LARC 3413 and LARC 4413 and Honors candidacy.

LARC5063 Alternative Stormwater Management (Irregular) Introduction to the role of alternative stormwater management techniques toward a more sustainable development to include constructed wetlands, bioswales, rain water harvesting, green roofs, and other stormwater reduction techniques. Emphasis on multidisciplinary team approach to problem solving. This course is open to non-majors and includes both lecture and laboratory time.

LARC5386 Landscape Architecture Design VIII (Sp) Investigation of the relationship between development, stewardship and land use of the regional scale. Natural resource systems, public policies, regional economics, and social contexts inform environmental land use planning and design decisions. Geographic information systems (GIS) used as an analysis tool. Lecture and GIS lab. Prerequisite: LARC 4376 or instructor approval.

LARC5386H Honors Landscape Architecture Design VIII (Sp) Investigation of the relationship between development, stewardship and land use of the regional scale. Natural resource systems, public policies, regional economics, and social contexts inform environmental land use planning and design decisions. Geographic information systems (GIS) used as an analysis tool. Lecture and GIS lab.. Prerequisite: LARC 4376 and Honors candidacy.

LARC5396 Landscape Architecture Design IX (Senior Demonstration Project) (Fa) Advanced design studio with an emphasis on individual or team research and design resolution. Includes all aspects of design process: inventory, programming, graphic documentation, formal oral presentation, and a written report. Prerequisite: LARC 5386.

LARC5396H Honors Landscape Architecture Design IX (Senior Demonstration Project) (Fa) Advanced design studio with an emphasis on
individual or team research and design resolution. Includes all aspects of design process: inventory, programming, graphic documentation, formal oral presentation, and a written report. Prerequisite: LARC 5386.

LARC5613 Landscape Architectural Practice and Project Manual (Sp) Professional responsibilities and related aspects of landscape architecture practice: ethics; office organization; client, contractor and landscape architect relationships; legal issues, contracts and documents; regulations; review of bidding and contractual documents.

Latin Amer. and Latino Studies (LAST)

LAST2013 Latin American Studies (Fa) This course provides an interdisciplinary introduction to Latin America. Drawing on Latin American literature, history, sociology, and political science, the course examines the broad forces that have shaped the region. (Same as ANTH 2013)

LAST399VH Honors Thesis (Sp, Fa) (1-6) Prerequisite: Junior standing.

LAST4003 Latin American Studies Colloquium (Sp) An interdepartmental colloquium with an annual change in subject of investigation, required of all Latin American studies majors. Prerequisite: Sophomore standing for Latin American studies majors and honors students. May be repeated for up to 6 hours of degree credit.

LAST4003H Honors Latin American Studies Colloquium (Sp) An interdepartmental colloquium with an annual change in subject of investigation, required of all Latin American studies majors. Prerequisite: sophomore standing for Latin American studies majors and honors students. May be repeated for up to 6 hours of degree credit.

Latin (LATN)

LATN1003 Elementary Latin I (Fa) The rudiments of classical Latin, with concentration on grammar, vocabulary, and syntax. Short selections from ancient authors lead to basic reading ability.

LATN1013 Elementary Latin II (Sp) A continuation of the rudiments of classical Latin, with concentration on grammar, vocabulary, and syntax. Short selections from ancient authors lead to basic reading ability.

LATN2003 Petronius' Satyricon (Fa) Development of reading skills through selections from Satyricon, and an introduction to imperial history and culture through critical study of the novel in translation. Prerequisite: LATN 1013 or equivalent.

LATN2013 Catullus (Sp) Development of reading skills through selections from Catullus' poems, and an introduction to the culture and history of the late republic through critical study of Catullus in translation and secondary works. Prerequisite: LATN 2003 or equivalent.

LATN3003 Virgil and Ovid (Fa) Selections from the Aeneid and/or the Metamorphoses, and an introduction to Roman literary history through the critical study of these works in translation. Prerequisite: LATN 2013 or equivalent.

LATN3013 Caesar (Sp) Selected readings from Caesar’s commentaries on Gallic or Civil Wars, and an overview of Republican political and military history through the critical study of the commentaries in translation and secondary works. Prerequisite: LATN 3003 or equivalent.

LATN3063 Intensive Elementary Latin Reading (Su) Overview of Latin grammar, vocabulary and syntax, leading to reading prose texts. For undergraduates who want short, intensive introduction to Latin and graduate students working towards reading proficiency. Successful completion fulfills graduate student research reading proficiency requirement. LATN 3063 alone cannot fulfill the Foreign Language requirement in Fulbright College. No credit for this course and LATN 1003 and/or 1013.

LATN4003 Roman History (Irregular) Selections from Sallust, Livy, Tacitus, or Suetonius. An overview of Roman Historiography through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4013 Roman Satire (Irregular) Selections from the satires of Horace, Juvenal, Persius, or Seneca. An overview of Roman humor and the genre of satire through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4023 Roman Didactic Epic (Irregular) Selections from Virgil’s Georgics, Lucretius’ De Rerum Natura, or Manilius’ Astronomica. An overview of Roman philosophical poetry through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4033 Roman Drama (Irregular) Selections from Plautus, Terence, or Seneca. An overview of Roman theater through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4043 Roman Elegy (Irregular) Selections from Propertius, Tibullus, or Ovid. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4063 Roman Pastoral and Lyric (Irregular) Selections from Catullus, Virgil’s Eclogues, Horace’s Odes, or Calpurnius Siculus. An overview of the two genres through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

LATN4073 Roman Novel (Irregular) Selections from Petronius or Apuleius. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

LATN4083 Roman Oratory (Irregular) Selections from the orations and theoretical works of Cicero, Seneca the Elder, or Quintilian. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

LATN4093 Roman Philosophy (Irregular) Selections from the philosophical works of Cicero or Seneca. An overview of Roman philosophy through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

LATN475V Special Investigations (Irregular) (1-6) May be repeated for credit.

LATN5633 Medieval Latin (Irregular) Selections from medieval writers from the 4th to the 17th century. Prerequisite: LATN 3003 or equivalent.

LATN575V Special Investigations (Irregular) (1-6) May be repeated for credit.

Law (LAWW)

LAWW400V Entertainment Law (Irregular) (1-6) Examines the legal principles and relationships of the entertainment industry, with a
primary emphasis on the music industry; provides an introduction to the practice of entertainment law and the negotiation of entertainment contracts; highlights a variety of legal and practical issues that arise when representing clients in the entertainment industry.

LAWW4012 Legal Research & Writing II (Sp) An introduction to the persuasive writing for trial and appellate courts. Emphasis will be placed on intermediate library research techniques and basic legal research using computers. Students will also engage in brief-writing and appellate argumentation.

LAWW4013 Legal Research & Writing I (Fa) An introduction to the special problems posed by the legal analysis and the expression of the results of that process. The primary emphasis will be on basic legal analysis techniques, basic legal writing skills, and proper citation form. Students will complete a series of writing assignments.

LAWW4023 Contracts I (Sp, Su, Fa) Formation and enforcement by litigation and commercial arbitration of commercial and family agreements. Mutual assent or consideration; third-party beneficiaries; assignments; joint obligation; performance; anticipatory breach; discharge of contractual duties; and the Statute of Frauds.

LAWW4033 Contracts II (Sp, Su, Fa) Contract interpretation and enforcement, remedies for breach, including anticipatory breach, justifications for breach, third party beneficiaries, assignment and delegation. Prerequisite: LAWW 4023

LAWW4053 Property I (Sp, Su, Fa) Emphasis is on real property. Basic concepts are covered, including property rights in lost and found articles (general property concepts), types and historical origins of estates, and other interests in land. Property transfer techniques, such as gifts, leases (landlord and tenant) and the sale of land are also considered. Land transfer techniques, including the land sale contract, the deed, the recording system, and methods of real property title assurance are discussed. Certain aspects of land use controls explored briefly.

LAWW406V Upper Level Writing (Sp, Su, Fa) (1-3) Second year students must take at least one 2 or 3-hour course in upper level research and writing which has been certified by the faculty as an Upper Level Writing course. The course, which is constructed around a special topic or specific area of the law, focuses on writing or drafting. Writing component accounts for at least 2/3 of the final grade. Prerequisite: LAWW 4013 and LAWW 4012. May be repeated for up to 10 hours of degree credit.

LAWW4073 Criminal Law (Sp, Su, Fa) Deals with the questions of what conduct society punishes through a criminal code and of the appropriate punishment for the forbidden conduct. In this context the course includes an analysis of the theories of punishment, the definitions of various crimes, the defenses available to one charged with criminal conduct, and the limitations placed by the Constitution on governmental power in the criminal law area. Throughout the course, special emphasis is placed on the appropriate role of the legislature and the courts, and the problem faced by them in devising and administering a criminal code.

LAWW4103 Civil Procedure I (Sp, Su, Fa) Study of the process of civil litigations from such preliminary matters as court selection and jurisdiction to appeal and collateral attack of final judgments. Some attempt is made to cover the antecedents of modern procedure; where appropriate, suggestions for reform are developed in class discussion. Emphasis is on the Federal Rules of Civil Procedures and on code pleading and common law procedure used in state court systems.

LAWW4144 Torts (Sp, Su, Fa)

LAWW4153 Property II (Sp, Su, Fa) Emphasis is on real property. Basic concepts are covered, including property rights in lost and found articles (general property concepts), types and historical origins of estates, and other interests in land. Property transfer techniques, such as gifts, leases (landlord and tenant), and the sale of land are also considered. Land transfer techniques, including the land sale contract, the deed, the recording system, and methods of real property title assurance are discussed. Certain aspects of land use controls are explored briefly.

LAWW4173 Criminal Procedure (Sp, Su, Fa) Concerned with the legal steps through which a criminal proceeding passes, commencing with the initial investigation of a crime and concluding with the release of the defendant. Does not deal exclusively with constitutional problems, although considerable time is spent on them. Recent Supreme Court decisions receive special emphasis. Criminal Procedure does not deal with criminal tactics or with many of the special problems relating to the introduction of evidence at the trial.

LAWW4203 Civil Procedure II (Sp, Su, Fa) Study of the process of civil litigations from such preliminary matters as court selection and jurisdiction to appeal and collateral attack of final judgments. Some attempt is given to cover the antecedents of modern procedure; and where appropriate, suggestions for reform are developed in class discussion. Emphasis is on the Federal Rules of Civil Procedure and on code pleading and common law procedure used in state court systems.

LAWW4442 Law & Accounting (Irregular) Study of basic accounting principles and their importance to attorneys engaged in business related activities. Topics covered include the fundamental accounting equation, the nature of accrual accounting, understanding financial statements, and accounting for assets and liabilities. Also a review of basic principles associated with financial statement analysis and valuation principles. Intended for students with little or no business training, and may not be taken for credit by students who have previously earned 6 or more hours of undergraduate or graduate credit in accounting courses.

LAWW4993 Pre-Trial Practice (Sp, Su, Fa) Develops fundamental lawyer's skills using role-play in simulation exercises that are videotaped and critiqued. Focuses on development of case theory, fact gathering, use of discovery tools, and case planning. Prerequisite: Successful completion of Civil Procedure I, Civil Procedure II, and Criminal Procedure.

LAWW500V Special Topics (Irregular) (1-18) Included under this heading will be a variety of variable credit law courses taught by law faculty on topics that are not included elsewhere in the curriculum. May be repeated for up to 18 hours of degree credit.

LAWW5013 Professional Responsibility (Irregular) Role of the lawyer as counselor, advocate, and public servant; obligation to society of the individual lawyer and the profession as a whole; ethical problems of the profession; representation of the unpopular cause and the desirable client, lawyers' obligation to law reform; lawyer and the press; the lawyer in public service; the aspects of law office management.

LAWW5023 Business Organizations (Sp, Su, Fa) Course is constructed around different forms of business organizations, with emphasis on agency and partnership law, and corporation law.

LAWW5023 Remedies (Irregular) Covers equity (jurisdiction and powers of courts of equity, injunctions, including adequacy of legal remedies, balancing of equities, interests protected, and defenses), damages (compensatory, exemplary, and nominal damages; direct and
LAWW5024 Remedies (Irregular) Covers equity (jurisdiction and powers of courts of equity, injunctions, including adequacy of legal remedies, balancing of equities, interests protected, and defenses), damages (compensatory, exemplary, and nominal damages; direct and consequential damages; mitigation; special application in contract and tort actions) and restitution (relief afforded by the judicial process, to prevent unjust attention of benefits).

LAWW5063 Education Law (Irregular) Study of law as it applies to public education in America, including the theory of compulsory education, constitutional rights of students and teachers, school financing, equal opportunity in education.

LAWW5073 Domestic Relations (Irregular) Devoted primarily to the problems generated by family relationships. There is a large section on formation and dissolution of marriage. Substantial time is also given to paternity and legitimacy, obligations toward and of children, custody, adoption, guardianship, general property law as it is affected by family relationships, and divorce and custody in the federal system (focusing primarily on enforceability of degrees in one state by courts sitting in another state).

LAWW5083 First Amendment (Irregular) An intensive examination of the legal issues arising under the First Amendment to the United States Constitution, with an emphasis on basic free speech doctrines and the dilemmas posed by interplay between the free exercise and establishment clauses. Prerequisite: LAWW 5114.

LAWW5093 Solo Practice Planning (Irregular) Combines elements of professional responsibility and law practice management. This course will satisfy the skills requirement.

LAWW510V Law: Study Abroad (Su) (1-6) Open to law students studying abroad in officially sanctioned programs.

LAWW5114 Constitutional Law (Irregular) An introduction to the basic principles of constitutional law and to current constitutional doctrines and problems. The primary focus will be on the structure of the federal system and on the rights of individuals under the Due Process and Equal Protection clauses of the Fifth and Fourteenth Amendments.

LAWW5133 Real Estate Transactions (Sp, Su, Fa) Focuses on real estate transfer, real estate finance and real estate development. Issues relating to the sale of land and conveyances of real property, mortgages and the planning, financing, constructing and marketing of modern real estate developments are treated.

LAWW5163 Administrative Law (Sp, Su, Fa) Course is constructed around Federal materials, but with some state references. Considers the origin and constitutional basis for the administrative process; executive and legislative controls with particular emphasis upon the judicial "control" of the administrative process (delegations, procedural and substantive due process, judicial assistance and enforcement and review of administrative decisions).

LAWW5173 Insurance (Sp, Su, Fa) A study of casualty, fire, and life insurance. Major areas include the duty to defend; duty to settle within policy limits; the definition of what is covered under the policy; insurance marketing; insurable interests; the measure of recovery; disputes between insurers; defenses such as fraud, concealment, and non-cooperation; and government regulation of insurance.

LAWW5183 Drafting Legal Documents (Irregular) This course will study and practice the principles applicable to drafting of non-litigation documents, such as contracts, wills, and legislation. These include organization and categorization of information, definitions, testing of substantive provisions for completeness and consequences, and choices and precision of language.

LAWW5203 Discrimination in Employment (Irregular) An examination of federal constitutional, statutory, and administrative restrictions that prohibit or limit employers, unions and employment agencies from discriminating on the basis of race, sex, religion, age, national origin and color. In addition to the substantive scope of federal law, emphasis given to enforcement procedures and remedies.

LAWW5213 Business Planning (Irregular) Synthesis of legal principles dealing with taxation and form of business organizations to provide guidance in choosing form and operating business entities.

LAWW5223 Negotiations (Irregular) This course provides students with instruction in, and methods for planning and evaluating their work in, negotiating on behalf of clients. In addition to teaching the theory attached to these skills, the course provides students with practice in these areas through the use of simulated negotiations exercises. While the focus is on negotiations, the aspects of the course relating to planning for negotiations will also help students develop client interviewing and counseling skills.

LAWW5233 Interviewing and Counseling (Irregular) Course provides instruction in practical aspects of client representation such as drafting, interviewing, counseling, fact gathering, negotiation, and advocacy, and in analytical processes for applying those skills in ethical fashion. In addition to teaching theory attached to skills, the course provides students with practice in these areas through the use of simulated client problems. Course satisfies skills requirement.

LAWW5243 Business and Commercial Torts (Irregular) Course will explore the legal relationship between competition and intangible property. Covers the spectrum of private remedies for competitive wrongs. Course will examine laws relating to such business and commercial torts as unfair competition, misappropriation of trade secrets, trademark infringement, false advertising, etc. Course is designed for students planning to practice in the areas of commercial, corporate, business or intellectual property law.


LAWW5313 Negotiable Instruments (Sp, Su, Fa) Study of Articles 3 and 4 of the Uniform Commercial Code dealing with negotiable instruments.

LAWW533V Election Law (Irregular) (1-3)

LAWW5363 Securities Regulation (Irregular) Regulation of issuance of and trading in stocks, bonds and other security by federal and state agencies, with particular reference to the SEC. Not offered every year. Prerequisite: LAWW 4294.

LAWW550V Wills, Trusts, and Estates (Irregular) (1-4) This is the study of the traditional areas of wills and trusts (inestate and testate succession). The trusts area includes both the private trust and the charitable trust.
Taxation problems are not covered in depth but are instead reserved for the Federal Estate & Gift Taxation course.

LAWW5513 Labor Law (Irregular) The right to organize; organization of labor unions; strikes; picketing; boycotts; collective bargaining; collective labor agreements and their enforcement; unfair labor practices by employers and by unions; the union member and his union; state labor relations legislation; the National Labor Relations Act and the Labor Management Relations Act. Not offered every year.

LAWW5994 Debtor-Creditor Relations (Sp, Su, Fa) Study of Article 9 of the Uniform Commercial Code and of the remedies of unsecured creditors.

LAWW6013 Alternative Dispute Resolution (Sp, Su, Fa) Deals with the alternative to formal litigation for resolving various types of disputes. The alternatives considered include negotiation, mediation and conciliation, arbitration, "rent-a-judge," and other special procedures. Areas of application include contract and tort disputes, community problems, labor relations, and medical practice controversies. This course will satisfy the skills requirement.

LAWW602V Independent Legal Research (Sp, Su, Fa) (1-3) Independent legal research conducted under the supervision of faculty members. Ordinarily a student may not accumulate more than two semester hours of credit for Independent Legal Research. This cumulative maximum may be exceeded only by special permission of the dean, who in exceptional circumstances may approve a cumulative maximum credit of three semester hours of credit for Independent Legal Research.

LAWW603V Federal Courts (Irregular) (1-3) Focus is on essential aspects of federal court procedure, the scope and limits of federal judicial power, and the underlying principles of federalism and separation of powers. Topics will include federal court jurisdiction, the power of Congress to limit that jurisdiction, Supreme Court review of state court judgments, and abstention and justiciability doctrines.

LAWW6042 Children and the Law (Irregular) Topics include children as legal persons, including minors' right to expression under the First Amendment and their participation in decision-making in legal contexts; children's rights and school authority, including constitutional issues in school discipline and religious expression; foster care; termination of parental rights; and adoption.

LAWW6063 Advanced Evidence (Sp, Su, Fa) Deals with the use of expert witnesses, forensic sciences and scientific evidence, organization of proof, burden of proof, presumptions, and the law of privileges.

LAWW607V Conflict of Laws (Sp, Su, Fa) (2-3) Study of the legal principles involved in problems which have connections with two or more states requiring a choice of law, choice of law in federal courts, and jurisdiction in multi-state situations.

LAWW6083 Arkansas Civil Practice (Irregular) This course builds on the basic understanding of civil procedure to create a detailed examination of civil procedure in Arkansas trial and appellate courts. Topics include: the Arkansas rules of civil and appellate procedure; the judiciary provisions of the Arkansas Constitution; state statutes dealing with jurisdiction and venue; the right to trial by jury following the merger of law and equity; and the enforcement of judgments. Differences between Arkansas and federal civil practice are also explored. Prerequisite: Civil Procedure I and II.

LAWW6093 Basic Evidence (Sp, Su, Fa) Study of the rules of evidence under which trials are conducted; the methods by which items of evidence and admitted or excluded; relevancy, real evidence, testimonial proof, and hearsay and its exceptions.

LAWW6103 Jurisprudence (Sp, Su, Fa) Studies of the ideas and methods of law, regardless of particular questions that might be resolved by the law.

LAWW611V Moot Court (Sp, Su, Fa) (1-3)

LAWW6133 Antitrust Law (Irregular) Federal anti-trust laws and their relationship to concentrations of economic power in the contexts of monopoly mergers, price fixing, economic boycotts and discrimination, resale price maintenance, dealer franchises, and exclusive dealing. Comparative analysis of free enterprise market and government regulated industries. Recommended for second- and third-year students interested in business practice or government service, as well as social welfare, or students with an interest in the subject.

LAWW6143 Oil and Gas (Sp, Su, Fa) Study of the law of oil and gas with emphasis on the interests that may be created in oil and gas, the rights of the landowner, provisions in the oil and gas lease, the rights of assignees, and legislation dealing with production and conservation.

LAWW614V Board of Advocates Credit (Sp, Su, Fa) (1-6) Members of the Board of Advocates may receive ungraded academic credit, to be awarded in the spring semester of the member's third year in law school, upon completion of duties for the fall and spring semesters.

LAWW6152 Elder Law Seminar (Irregular) In-depth treatment of selected problems of elderly persons in seminar format.

LAWW616V Law Review Credit (Sp, Su, Fa) (1-4)

LAWW6182 Advanced Torts: Dignitary and Economic Harm (Irregular) Course will cover defamation, the rights of privacy (including information privacy) and publicity, harm to family relationships, malicious prosecution and interference with common law civil rights.

LAWW6183 Journal of Food Law & Policy Credit (Sp) (1-5) Students receive credit for completion of duties on the Law School's publication of The Journal of Food Law & Policy.

LAWW6192 Workers' Compensation (Sp, Su, Fa) Study of state legislation providing remedies for workers injured in the course of their employment. Not offered every year.

LAWW6193 Social Legislation (Sp, Su, Fa) Examination of the various statutes (exclusive of the employment discrimination laws) governing the rights and responsibilities of employees and employers, including unemployment legislation, COBRA, EPPA, ERISA, FLSA, OSHA, USERRA, and WARN.

LAWW6203 Trial Advocacy (Sp, Su, Fa) An introduction to actual trial work and trial techniques through simulated exercises and the conduct of a mock trial. This course will satisfy the skills requirement.

LAWW6213 Product Liability (Sp, Su, Fa) An in-depth study of the law of products and the liability of manufacturers, sellers, and sellers of products to consumers. The emphasis will be on the principles of tort liability, especially negligence and strict liability, with special attention to the special issues and problems of products liability. The course book, by Beazley, Smith, and Negley, will be used. The course will satisfy the skills requirement.

LAWW6223 Oil & Gas Regulation and Agreements (Irregular) This course is intended as a companion or follow-up course to the basic Oil and Gas course, and Oil & Gas is a pre- or corequisite to this course. The casebook will be the same as the book used in the basic Oil and Gas course. The emphasis of Oil & Gas Regulation and Agreements is on Well Spacing Regulations, including the administrative rules governing
processes. Class readings/discussion on theory and practice will be
followed by student simulations. Designed for second and third year law
students.
LAWW635V Journal of Islamic Law and Culture Credit (Irregular)
(1-4) The Journal of Islamic Law & Culture is intended to encourage
scholarship and dialogue that fosters a deeper understanding of the law
and public policy of Islamic religion and culture, particularly as it intersects
with Western law and society, including the legal and social communities
of the US. The Journal is published semiannually by Routledge Press, in
collaboration among the UA School of Law and the UA King Fahd Center
for Middle Eastern and Islamic Studies.

LAWW6364 Legal Clinic: Immigration (Irregular) Immigration Clinic will
provide opportunities for students preparing for a career in immigration
law or general practice by developing skills that are critical in legal
practice through an experiential learning model. Working under the
supervision of a clinical faculty member, students will represent sectors
of the immigrant population for graded credit. Criminal Procedure and
Professional Responsibility are prerequisites, as well as the completion
of at least forty-eight credit hours prior to enrollment. Prerequisite: LAWW
4143, 5013.

LAWW6373 Legal Clinic (Federal Practice) (Sp, Su, Fa) Students
receive clinical legal experiences in federal courts and before federal
administrative agencies. Although the particular experiences vary,
Chapter 7 (no asset) bankruptcies and farm foreclosures are often
emphasized.

LAWW6383 General Practice Clinic (Su) (First Offered Summer 2002)
Students will integrate, extend, and refine their legal knowledge and
lawyering skills through representation of clients in civil cases pending
before Arkansas Circuit and Chancery Courts, federal bankruptcy or
administrative cases pending before the U.S. Bankruptcy Court and
Administrative Law Judges, and prosecution of criminal misdemeanor
cases. Students are responsible for all aspects of representation including
interviewing, counseling, negotiation, pleading and discovery practice, and
trial advocacy. This course offers students a practice experience similar
to that experienced by many lawyers practicing in small to medium sized
firms in Arkansas and other states in the region. Prerequisite: Unless
waived by the instructor, a cumulative GPA of 2.00; successful completion
of at least forty-eight credit hours of offerings, including LAWW 4103, LAWW 4203,
LAWW 4173, LAWW 6093, and LAWW 5013; and qualifying for Rule XV
practice.

LAWW6393 Legal Clinic (Transactional) (Irregular) Students receive
clinical legal experience counseling and representing non-profit
organizations serving Northwest Arkansas in a wide range of non-litigation
business law matters. Services include startup, incorporation, obtaining
federal and state tax exemptions, change of business form, purchase
and lease of real and personal property, employment and labor law
issues, and general contract negotiation, drafting and execution. In
addition, students prepare and participate as presenters in a workshop
on matters of general interest to non-profit organizations. Legal Clinic Faculty
supervise and review the student attorney’s work, and provide personal
feedback to the individual student attorneys. Prerequisite: Qualification for
Rule XV practice.

LAWW6403 Land Use (Sp, Su, Fa) Covers public land use controls such
as zoning, subdivision regulations, and eminent domain (including private
property rights, takings, and inverse condemnation). Heavy emphasis is
placed on planning at state and local levels.

LAWW6433 Legal Clinic: Innocence Project (Irregular) This clinic works
in conjunction with the Innocence Project, Arkansas to provide pro bono
representation to individuals committed to the Arkansas Department of Corrections where available evidence establishes proof of the client’s actual innocence. Students are responsible for all aspects of the representation including: case review, investigation, development of lay and expert testimony, pleading, briefing, discovery, and assistance in court proceedings. The Innocence Project, Arkansas is an Arkansas non-profit corporation. Students must be Rule XV eligible and have taken Trial Advocacy. The Innocence Project Clinic is a 3 credit course. May be repeated for credit.

LAWW6443 Legal History (Sp, Su, Fa) Investigation of English and American legal institutions and doctrines. Emphasis on early American (colonial) and 19th Century developments in the law.

LAWW6453 American Legal History (Irregular) An examination of major themes in American legal history, with an emphasis on the origins and meaning of the United States Constitution. Various topics will be explored in the light of the original understandings, developments over time, and current interpretations by the courts and the body politic.

LAWW6473 Legal Clinic (Criminal Prosecution) (Sp) Students in this course will have the opportunity to extend and refine their lawyering skills, knowledge of substantive law, and mastery of criminal procedure through prosecution of misdemeanor crimes on behalf of the State in Municipal Court. Students are fully responsible for the cases assigned to them. Their responsibilities include assessing the charges and investigation of law enforcement, interviewing witnesses, conducting discovery, evaluating cases for an agreed upon resolution, negotiating with defense counsel and pro se defendants, responding to suppression and other defense motions, trial preparation, and trying cases to the court. The preparation and performance of student attorneys is supervised by clinic faculty who provide personal feedback to the individual students. Prerequisite: Unless waived by the instructor, prerequisites for taking the course shall be a cumulative grade point average of 2.00; the successful completion of 48 semester hours of offerings, including Civil Procedure I, Civil Procedure II, Criminal Law, Criminal Procedure, Evidence, and Professional Responsibility; and qualifying for Rule XV practice.

LAWW648V Special Topics (Skills) (Sp, Su, Fa) (1-3) Special Topics (Skills) is a course where “class names” allow for a menu of course titles that provide substantial instruction in professional skills related to the responsibilities which lawyers are called upon to meet such as trial and appellate advocacy, alternative methods of dispute resolution, counseling, interviewing, negotiating, problem solving, factual investigation, organization and management of legal work, drafting, and analytical processes for applying those skills in ethical fashion. Prerequisite: all first-year courses. May be repeated for up to 15 hours of degree credit.

LAWW6513 Immigration Law and Policy (Sp, Su, Fa) Study of immigration and nationality, including exclusion and deportation; political asylum and refugee status; visa allocation and distribution; labor certification; and naturalization and citizenship. It is recommended that Administrative Law be taken first.

LAWW6523 Employment Law (Sp, Su, Fa) An overview of the law governing various aspects of the employment relationship, both statutory and common law. Covers the establishment and parameters of employment, the security of the worker, employer’s rights, and terminations.

LAWW654V Public Service Externship (Sp, Su, Fa) (2-3) A public service externship is a pro-bono position involving exposure to real world situations, involving some aspect of public service, where a lawyer’s expertise and insights will be called for and can be observed. Normally, placements in private law firms or for-profit corporations would not qualify. The usual expectation is that a public service externship should last an entire semester (15 weeks during the spring and fall, and 12 weeks during the summer). For a two-credit externship, the average work load must be no less than 8 hours per week in the fall and spring, or 10 hours per week in the summer. For a three-credit externship, the average work load would be no less than 12 hours per week in the fall and spring, or 15 hours per week in the summer. Prerequisite: Faculty recommendation.

LAWW6613 Bankruptcy (Sp, Su, Fa) Study of insolvency law, with particular emphasis on federal bankruptcy law.

LAWW6623 Sentencing and Post-Conviction Remedies (Sp, Su, Fa) Law, theory, and practice of sentencing and post-conviction remedies.

LAWW6633 Criminal Procedure II (Irregular) This course focuses on prosecuting crime. Principal topics include: the prosecutor’s decision to charge, the role of defense counsel, initial appearance, bail and pretrial release, grand juries and preliminary hearings, discovery, guilty pleas and plea bargaining, speedy trial, double jeopardy, trials and pretrial motions, sentencing and post-conviction remedies. Prerequisite: LAWW 4173.

LAWW6713 Judicial Externship (Sp, Su, Fa) Judicial Externship is an elective externship for second and third year students. Externs shall report to and be under direct supervision of a judge of the federal district court, the bankruptcy court, or a circuit court approved by the externship coordinator. Externs’ duties may be determined by the supervising judge and may include work on assigned cases, research, preparation of memoranda, and consultation with full-time law clerks.

LAWW6722 Terrorism, National Security and Human Rights (Irregular) International law issues relating to protection of human rights. Research papers will satisfy upper-level writing requirement.

LAWW6723 Juvenile Justice Externship (Irregular) Juvenile Justice Externship is an elective externship for third year law students. Prerequisites for participating are: successful completion of the Criminal Defense Clinic or the General Practice Clinic; certification under Rule XV of the Arkansas Rules Governing Admission to the Bar; and the advance approval of the faculty member assigned to supervise the externship.

LAWW6812 Legislative Externship (Irregular) Elective externship for third year students. Available only to a student who has successfully completed 48 hours of law credit and has earned a grade of C or higher in Professional Responsibility. Students must disclose whether they have been subject of any prior honor code proceeding which resulted in imposition of any penalty. Extern shall report to and be supervised by either a chief of staff or deputy chief of staff. Duties shall be determined by the field supervisor. Duties may include observation of and assistance in day-to-day operations, special projects, work with federal or state agencies, communications with constituents and other duties as assigned. Prerequisite: 48 hours law credit and grade of C or higher in Professional Responsibility.

LAWW6814 Corporate Counsel Externship (Irregular) Externs work with a supervising attorney in a corporate counsel’s office. In Fall and Spring semesters each extern works 16 hours per week (average minimum), and in Summer the extern shall work at least 20 hours per week during the 12-week term; keeps a journal, and meets at least 3 times with the faculty supervisor. Prerequisite: LAWW 4294, LAWW 5013 and approval of the faculty supervisor; Recommended: LAWW 6293.
LAWW6822 Patent Law (Sp, Su, Fa) Study of the patent system of the United States, including conditions for a valid patent, procedures of the patent office, and litigation relating to patents. Not offered every year.

LAWW6903 ADR in the Workplace (Irregular) Explores the practical as well as the legal problems presented by the use of alternative dispute resolution to resolve employment disputes. The primary focus will be on the enforcement of collective bargaining agreements and individual employment contracts through arbitration, and the use of arbitration to resolve statutory issues such as claims of employment discrimination. There also will be some consideration of other forms of ADR such as mediation, fact-finding, and peer-review systems. Course satisfies the skills requirement.

LAWW6913 Environmental Law (Sp, Su, Fa) Devoted primarily to the legal problems related to the environment. Included is consideration of environmental impact in public and private decision making.

LAWW6923 Legal Clinic (Civil Practice) (Sp, Su, Fa) Students develop skills by working with actual clients in nearby civil courts. Students interview clients, counsel them, negotiate and litigate. The Legal Clinic faculty supervise and review the students’ work, and provide personal feedback to individual students. Prerequisite: Cum GPA of 2.00, successful completion of 48 semester hours, including Civil Procedure I and II, Criminal Procedure, Evidence, and Professional Responsibility, and qualifying for Rule XV practice.

LAWW6943 Public International Law (Sp, Su, Fa) Principles of international law involving relations among government. The function of international tribunals and organizations.

LAWW6963 Legal Clinic (Criminal Defense) (Sp, Su, Fa) Students develop skills by representing actual clients charged with misdemeanors in Washington County and nearby counties and clients charged with felonies and misdemeanors in Washington County Juvenile Court. Students interview clients, counsel them, negotiate, and litigate. The Legal Clinic faculty supervise and review the students’ work, and provide personal feedback to individual students.

LAWW6973 Advanced Clinic (Irregular) Advanced Clinic is designed to allow students to gain more in depth experience in either the Civil, Transactional and General Practice Clinics. Students who have successfully completed the Civil or Transactional Clinic may elect to take the Advanced Clinic for an additional 3 credits during a subsequent semester. Students enrolled in the General Practice Clinic may elect to take the course for an additional 3 credits during the same summer session in which they are enrolled. Students may take only one Advanced Clinic.

LAWW7012 Juvenile Justice Seminar (Sp, Su, Fa) Examines procedural and substantive law in the context of the distinctive goals, structure, and procedure of the Juvenile Court. Special attention is given to alternative ways of dealing with two categories of juveniles, i.e., status offenders who are within the jurisdiction of the court although not accused of criminal conduct, and youthful offenders who commit serious crimes.

LAWW7053 Externship: Federal Public Defender (Irregular) Externship is an elective externship for third year law students for three semester hours of ungraded credit. Duties shall be determined by the supervising attorney and may include work on assigned cases, appearances, preparation of research memoranda, preparation of trial motions, consultation with other employees of the Office of the Federal Public Defender and other projects as assigned. Each extern works an average of 12 hours minimum per week during the fall or spring semesters or 15 hours per week during the summer semester, keeps a journal and meets at least 3 times with the faculty supervisor.

LAWW706V Sports Law (Irregular) (2-3) The major topics covered include significant contract issues, tort liability involving participants, institutions, physicians and equipment manufacturers, criminal liability, drug testing, constitutional and related issues dealing with sports associations and Title 9 and gender equity issues. Other relevant topics may also be covered if possible.

LAWW7072 Advanced Mediation Clinic (Irregular) Students will co-mediate civil cases referred by Courts and agencies. Students will work with experienced mediators and the mediation clinic supervisor, who will review their performances on an individual basis. Students may produce educational programs for various groups. Class discussions will focus on current mediation issues and problems. Pre-requisite: Mediation in Practice.

LAWW7073 Mediation in Practice (Irregular) This three-credit course will train students to mediate disputes assigned to the Northwest Arkansas Dependency-Neglect/Families In Need of Services Mediation Project by the juvenile court. In the first five weeks of the semester, students will be introduced to basic mediation theory, procedures, and ethical constraints; communication techniques; juvenile law; and operation of the child welfare system in Arkansas. This training will include lectures, discussion, and simulation exercises. In the remaining weeks of the semester, students will receive additional information and simulation practice, and they will also observe and participate in the mediation of actual cases assigned to the Project.

LAWW7243 Health Law (Sp, Su, Fa) An examination of the role of the law in determining access to and regulation of the quality of services provided by the health care industry.

LAWW7342 Law and the Internet (Irregular) This is a survey course. Students will study laws associated with doing business over the internet. A partial list of topics to be covered is: jurisdiction, trademarks, copyrights, patents, contracting, taxation, privacy, obscenity, defamation, and criminal law. The course is highly interactive. In addition to lectures, students will participate in case discussions and presentations.

LAWW760V Bankruptcy - Business Reorganizations (Irregular) (2-3) Examines the rules and tactics governing the reorganization of a struggling business or farm under Chapter 11 of the Bankruptcy Code. Students will reorganize a hypothetical failing business as a part of the course.

LAWW7612 Advanced Consumer Bankruptcy (Sp, Su, Fa) Study of recent developments in the law of bankruptcy as it applies to consumer and non-consumer transactions. Prerequisite: LAWW 6602.

LAWW7662 American Indian Law (Sp, Su, Fa) Study of the domestic federal law of the United States as it applies to Native Americans and their tribes. The general concept of tribal self-determination is the unifying theme of the course. Particular topics include tribal sovereignty and government; American Indian civil rights; administration of justice on and off the reservation; American Indian land claims; land, hunting, and fishing rights; water rights; American Indian health, education, and welfare; Bureau of Indian Affairs; state taxation; individual and tribal treaty rights; federal Indian policy; and zoning and environmental controls.
LAWW770V Master's Thesis in Agricultural Law (Sp, Su, Fa) (1-4)
Research in a specialized area of agricultural law and development of a scholarly paper containing the results of this research.

LAWW771V Independent Research in Agricultural Law (Sp, Su, Fa) (1-2)
Independent research in agricultural law conducted under the supervision of a faculty member.

LAWW7753 Agriculture and the Environment (Sp, Su, Fa) Study of the application of environmental law to agricultural operations. Topics include soil erosion, takings, pesticide law, the Clean Water Act, the Clear Air Act, common law nuisance, drainage, wildlife, and endangered species.

LAWW7763 Agricultural Finance and Credit (Sp, Su, Fa) Study of the legal issues surrounding the financing of agricultural operations, including credit availability, agricultural security issues under the Uniform Commercial Code, and debt restructurings opportunities. Special focus is on lending options offered by the Farm Service Agency and the Farm Credit System.

LAWW7773 Water Law (Sp, Su, Fa) Study of real property principles governing ownership rights in water and the federal and state statutes controlling the use of water.

LAWW7782 Agricultural Labor Law (Sp, Su, Fa) Study of the federal laws that govern the employment of agricultural workers, including wage and hour provisions, laws impacting migrant and seasonal farm workers, immigration issues, occupational safety and health, and child labor laws.

LAWW7802 Comparative Law Seminar (Sp, Su, Fa) A study of selected foreign legal systems with a focus on the basic differences between those legal institutions and the Anglo-American common law system.

LAWW7862 Food Law (Irregular) An examination of the network of laws that govern food safety and food labeling and a discussion of the efficacy of this network - is it working properly and are consumers well served by it? The course materials will be based on statutory and regulatory law, judicial decisions, and a series of policy readings. Current issues in the news, e.g., mad cow disease, the spinach e-coli outbreak, and the organic standards will be considered in our discussion.

LAWW791V Government Regulation of Agriculture (Sp, Su, Fa) (1-3)
Mathematics (MATH)

MATH0003 Beginning and Intermediate Algebra (Sp, Su, Fa) For students who have inadequate preparation for taking MATH 1203. Credit earned in this course may not be applied to the total required for a degree. Corequisite: Lab component.

MATH1203 College Algebra (Sp, Su, Fa) Topics include the solution and application of linear and quadratic equations and inequalities; functions, graphs, and theory of equations; matrix solutions of systems of equations and basic properties of matrices. Credit will be allowed for only one of MATH 1203 and MATH 1284C. Prerequisite: MATH 0003 with a grade of C or better, or a score of at least 80% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 23 on the math component of the ACT exam, or a score of at least 540 on the math component of the SAT. (Same as MATH 1203C,MATH 1204)

MATH1204 College Algebra with Review (Sp, Su, Fa) Same as MATH 1203 with additional support, increased class time, additional review, and computerized lab component. Only one of MATH 1203, MATH 1204, AND MATH 1284C may be counted for degree credit. Prerequisite: MATH 0003 with a grade of C or better, or a score of at least 70% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 19 on the math component of the ACT exam, or a score of at least 460 on the math component of the SAT. (Same as MATH 1203,MATH 1203C)

MATH1213 Plane Trigonometry (Sp, Su, Fa) Basic topics in trigonometry including identities, formulas, and polar coordinate system. Credit will be allowed for only one of either MATH 1213 or MATH 1284C. Corequisite: Lab component. Prerequisite: MATH 1203 or MATH 1204 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT.

MATH2031M Honors Mathematical Thought Lab (Sp, Fa) Supplemental honors laboratory for Math 2033, Mathematical Thought. Pre- or Corequisite: MATH 2033. Prerequisite: Honors standing or departmental consent.

MATH2033 Mathematical Thought (Sp, Su, Fa) This course introduces students to a variety of topics in modern mathematics. Topics vary and can include graph theory, game theory, voting systems, foundations of logic, cardinality, discrete geometry combinatorics, geometry of surfaces, topology and symmetry. Prerequisite: MATH 1203 or MATH 1204 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT.

MATH2043C Survey of Calculus (Sp, Su, Fa) Selected topics in elementary calculus and analytic geometry for students in business, agriculture, and social sciences. Credit will be allowed for only one of MATH 2043 and MATH 2554. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2053 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT. (Same as MATH 2043C)

MATH2043 Survey of Calculus (Sp, Su, Fa) Selected topics in elementary calculus and analytic geometry for students in business, agriculture, and social sciences. Credit will be allowed for only one of MATH 2043 and MATH 2554. Corequisite: Lab component. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2053 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT. (Same as MATH 2043)
MATH2053 Finite Mathematics (Sp, Su, Fa) Selected topics in probability and statistics, review of algebraic matrices, and graphic analysis of linear programming for students in business, agriculture, and social sciences. Prerequisite: Instrument I (Sp, Su, Fa) (1-4) Private study of the primary voice/instrument for music majors. Continued development of fundamental musical and technical skills introduced in MUAP 110V. Corequisite: Lab component. Prerequisite: Music major; recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUAP2001 Applied Secondary-Level Voice/Instrument II (Sp, Su, Fa) Continued private study of secondary voice/instrument. Instructor permission required to enroll. Prerequisite: Two semesters of MUAP 1001 with grades of "B" or better and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

MUAP210V Applied Major Voice/Instrument II (Sp, Su, Fa) (1-4) Continued private study of the primary voice/instrument for music majors. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 110V with grades of B or better or MUAP 130V with a grade of B or better. May be repeated for up to 8 hours of degree credit.

MUAP230V Applied Skills Voice/Instrument II (Sp, Su, Fa) (1-4) Private study of the primary voice/instrument for music majors. Continued development of fundamental musical and technical skills introduced in MUAP 210V. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 210V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUAP3001 Applied Secondary-Level Voice/Instrument III (Sp, Su, Fa) Advanced private study of secondary voice/instrument. Prerequisite: Two semesters of MUAP 2001 with grades of "B" or better and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

MUAP310V Applied Major Voice/Instrument III (Sp, Su, Fa) (1-4) Continuation of MUAP 210V. Private study of the primary instrument/voice for music majors at the advanced level. Admission requires approval of the faculty committee of the area of study (voice, piano, woodwind, brass, percussion). Mastery of fundamental/technical skills sufficient to prepare for a recital must be observable by the committee. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 210V with grades of B or better or MUAP 230V with a grade of B or better. May be repeated for up to 8 hours of degree credit.

MUAP310VH Honors Applied Major Voice/Instrument III (Sp, Su, Fa) (1-4) Continuation of MUAP 210V. Private study of the primary voice/instrument for honors music majors at the advanced level. Admission requires approval of faculty committee of the area of study (voice, piano, woodwind, brass, percussion). Mastery of fundamental/technical skills sufficient to prepare for a recital must be observable by the committee. Prerequisite: Two semesters of MUAP 210V with grades of B or better or MUAP 230V with a grade of B or better; honors standing. May be repeated for up to 8 hours of degree credit.

MUAP3201 Applied Recital I (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 25 minutes of music. May be repeated for credit.

MUAP3201H Honors Applied Recital I (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes of music. Corequisite: MUAP 310VH. May be repeated for credit.

MUAP330V Applied Skills Voice/Instrument III (Sp, Su, Fa) (1-4) Private study of the primary voice/instrument for music majors at the advanced level. Continued development of musical and technical skills introduced in MUAP 310V. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 310V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUAP4001 Applied Secondary-Level Voice/Instrument IV (Sp, Su, Fa) Continued advanced private study of secondary voice/instrument. Instructor permission required to enroll. Prerequisite: Two semesters of MUAP 3001 with grades of "B" or better and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

MUAP410V Applied Major Voice/Instrument IV (Sp, Su, Fa) (1-4) Continuation of MUAP 310V. Private study of the primary voice/instrument for music majors at the advanced level. Prereq or Corequisite: Two semesters of MUAP 310V with grades of B or better or MUAP 330V with a grade of B or better. May be repeated for up to 8 hours of degree credit.

MUAP410VH Honors Applied Major Voice/Instrument IV (Sp, Su, Fa) (1-4) Continuation of MUAP 310VH. Private study of the primary voice/instrument for honors music majors at the advanced level. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 310VH and recommendation of instructor; honors standing. May be repeated for up to 8 hours of degree credit.

MUAP415V Applied Skills Voice/Instrument IV (Sp, Su, Fa) (1-4) Private study of the primary voice/instrument for music majors at the advanced level in preparation for recital. Continued development of musical and technical skills introduced in MUAP 410V. Corequisite: Lab component. Prerequisite: Two semesters of MUAP 410V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUAP4201 Applied Recital II (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes of music. Prerequisite: MUAP 3201. May be repeated for credit.

MUAP4201H Honors Applied Recital II (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes of music. Corequisite: MUAP 310VH. May be repeated for credit.

MUAP4301 Composition Recital (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes consisting of original musical compositions. May be repeated for credit.

MUAP5001 Applied Voice/Instrument-Secondary Level (Sp, Su, Fa) Private study at the graduate secondary level. May be repeated for credit.

MUAP510V Applied Voice/Instrument (Sp, Su, Fa) (1-5) Private study at the graduate level. Prerequisite: MUAP 310 or equivalent. May be repeated for credit.

MUAP5201 Graduate Recital I (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes of music. May be repeated for credit.

MUAP5211 Graduate Recital II (Sp, Su, Fa) Preparation and performance of a public recital of a minimum of 50 minutes of music. May be repeated for credit.

Music Education (MUED)

MUED2012 Introduction to Music Education (Sp) A course designed to provide early experiences for the prospective music teacher. Students will become familiar with professional trends, music classroom organizational
and management issues, and principles of effective education. Emphases will include basic psychological and philosophical orientation, as well as observations in public school classrooms. Required of all prospective Music Education majors.

MUED2552 Class Instruction in Orchestral String Instruments (Fa) Familiarizes students with elementary and intermediate skills, techniques and pedagogy needed to teach orchestral stringed instruments in a class setting. Includes a lab that specifically focuses on peer teaching of concepts and skills related to teaching stringed instruments. Prerequisite: Bachelor of Music Major with an emphasis in PIAN, VOCE, STRG, or WWBP and sophomore standing.

MUED3021 Supervised Practicum in Teaching Musical Skills (Sp, Su, Fa) Provides for supervised teaching opportunities with public school students in instrumental, choral, and elementary classes. Prerequisite: All Emphases: MUED 2012.

MUED3833 Music Education in the Elementary School (Sp, Fa) Concepts of elementary music education; methods, materials, curriculum design, and supervision in elementary school music. Prerequisite: MUED 2012.

MUED4031 Seminar for Professional Entry into Music Education (Sp, Fa) A seminar offered during student teaching semester to prepare the student for the role of a professional educator. Content includes professional ethics and conduct, classroom management, evaluation and grading, and application for employment.

MUED4112 Pedagogy in Music Education (Fa) A course presenting broad music teaching concepts and specific teaching behaviors. Students will experience the pedagogical teaching situation through the construct of effective communication practice. Emphases will be on providing a laboratory environment representative of public school classrooms. Required of all Music Education majors. Prerequisite: MUED 3833.

MUED4273 Methods for Teaching String Instruments (Odd years, Fa) Methods and materials for students preparing to teach orchestral instruments and ensembles in the public schools. Prerequisite: MUAC 1331, MUAC 1341, MUAC 1351, MUAC 1361, MUAC 1371, MUED 2012, MUED 2552, and MUED 3021.

MUED4283 Teaching Vocal Music (Even years, Fa) Methods and materials used in teaching high school music. Prerequisite: MUAC 1371, MUED 2012 and MUED 2552.

MUED4293 Instrumental Methods (Fa) Problems of teaching instrumental music in the public schools. Prerequisite: MUAC 1331, MUAC 1341, MUAC 1351, MUAC 1361, MUAC 1371, MUED 2012, MUED 2552, and MUED 3021.

MUED451V Student Teaching: Elementary Music (Sp, Su, Fa) (4-8) A minimum of five weeks and a maximum of ten weeks will be spent in an off-campus school, where the student will teach under supervision in the elementary classroom and will participate in other activities involving the school and community. Enrollment requirement is for a total of 12 hours and 15 weeks involvement in 452V and 451V. Corequisite: MUED 452. Prerequisite: Bachelor of Music degree in Music Education.

MUED477V Special Topics in Music Education (Irregular) (1-4) Subject matter not covered in other sources. With permission, may be repeated for credit if topics are different.

MUED5513 Seminar: Resources in Music Education (Irregular) Study of the analytical and writing skills necessary for academic research in music education. Each student identifies one problem specific to music education, finds and reviews related literature and sources, develops a comprehensive bibliography, and writes a paper which synthesizes the research. Open to graduate students and undergraduates in honors in music education.

MUED5553 Seminar: Issues in Music Education (Irregular) A seminar exploring the relationships between the profession of teaching music and selected views about learning theories, teaching methods, philosophy, psychology, and other selected topics relevant to contemporary music education.

MUED5733 Music Education in the Elementary School (Irregular) Concepts of elementary music education; methods, materials, curriculum design, and supervision in elementary school music.

MUED5811 Curriculum Design in Music (Irregular) Goals and objectives in music education. Student will develop a curriculum for an actual or hypothetical music education program.


MUED5862 Marching Band Techniques (Irregular) Includes the place of the marching band in the school program, types of formations used, and selecting, arranging or writing the musical score.

MUED5973 Tests and Measurement in Music (Irregular) This course will address the psychometric concepts of tests and measurement of music achievement, aptitude, attitude, and self-assessment. The course will focus on the teaching and assessment of musical skills, musical responses, and will critically examine existing aptitude tests (Seashore, Watkins Farnum, Gordon, etc.). Basic statistical concepts and data analysis used in common testing scenarios will be introduced. Prerequisite: Graduate standing in music.

MUED5983 Psychology of Music Behavior (Irregular) This course is an introduction to the psychology of music, and will adopt an interdisciplinary view toward the field, covering such topics as philosophical and sociological questions about the nature and function of music, the physiology of the ear, the physical and perceptual properties of sounds (acoustics), performance anxiety, preference and taste research, social and pedagogical attributes of performance, and behavioral musical responses. Prerequisite: Graduate standing.

MUED600V Master’s Thesis (Irregular) (1-6) Preparation of a master’s thesis as partial fulfillment of the requirement for the master’s degree.

MUED605V Independent Study (Irregular) (1-6) Provides students with an opportunity to pursue special study of problems in music education. May be repeated for up to 6 hours of degree credit.

Music Ensemble (MUEN)
MUEN1341 Collegium Musicum I (Irregular) Performance of early music; various combinations of instruments and/or voices. Two hours rehearsal weekly. May be repeated for up to 2 hours of degree credit.

MUEN1401 Opera Theatre I (Sp, Fa) Study of opera through performances of scenes, chamber and major operatic production. Admission with director’s approval. May be repeated for up to 2 hours of degree credit.

MUEN1411 Concert Choir I (Sp, Fa) Large ensemble study and performance of a range of choral literature. Emphasis on proper vocal production, breathing, intonation, and vocal registration. Style and interpretative elements will be highlighted during the semester. Open to all interested students. May be repeated for up to 2 hours of degree credit.

MUEN1421 Inspirational Chorale I (Sp, Fa) Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director’s approval. Prerequisite: Audition and director’s approval. May be repeated for up to 2 hours of degree credit.

MUEN1431 Symphony Orchestra I (Sp, Fa) Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN1441 Marching Band I (Fa) Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1451 Schola Cantorum I (Sp, Fa) Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN1461 Wind Symphony I (Sp, Fa) Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Corequisite: Lab component. Prerequisite: Director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN1471 Jazz Performance Laboratory I (Sp, Fa) Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. May be repeated for up to 2 hours of degree credit.

MUEN1481 Campus Band I (Sp, Fa) Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

MUEN1501 Chamber Music I (Sp, Su, Fa) Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1511 Symphonic Band I (Sp, Fa) Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN1521 Woodwind Quintet I (Sp, Fa) Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. May be repeated for up to 2 hours of degree credit.

MUEN1541 Accompanying I (Sp, Fa) Piano accompanying of vocal and instrumental solos. Rehearsal 2 hours per week. Prerequisite: MUAP 110V. May be repeated for up to 2 hours of degree credit.

MUEN1551 Percussion Ensemble I (Sp, Su) Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1581 Vocal Ensemble I (Sp, Su, Fa) Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. May be repeated for up to 2 hours of degree credit.

MUEN1711 Flute Ensemble I (Sp, Fa) Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1721 Clarinet Ensemble I (Sp, Fa) Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1731 Saxophone Ensemble I (Sp, Fa) Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1751 Trumpet Ensemble I (Sp, Fa) Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN1771 Trombone Ensemble I (Irregular) Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

MUEN2341 Collegium Musicum II (Irregular) Continuation of Collegium Musicum I. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2401 Opera Theatre II (Sp, Fa) Continuation of Opera Theatre I. Study of opera through performances of scenes, chamber and major
operative production. Admission with director's approval. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2411 Concert Choir II (Sp, Fa) Continuation of Concert Choir I. Large ensemble study and performance of a range of choral literature. Emphasis on proper vocal production, breathing, intonation, and vocal registration. Style and interpretative elements will be highlighted during the semester. Open to all interested students. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2421 Inspirational Chorale II (Sp, Fa) Continuation of Inspirational Chorale I. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Sophomore standing; audition and approval of director. May be repeated for up to 2 hours of degree credit.

MUEN2431 Symphony Orchestra II (Sp, Fa) Continuation of Symphony Orchestra I. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Sophomore standing; director's consent. May be repeated for up to 2 hours of degree credit.

MUEN2441 Marching Band II (Fa) Continuation of Marching Band I. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2451 Schola Cantorum II (Sp, Fa) Continuation of Schola Cantorum I. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Sophomore standing; Director's consent. May be repeated for up to 2 hours of degree credit.

MUEN2461 Wind Symphony II (Sp, Fa) Continuation of Wind Symphony I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artisitic merit which serve the campus community and general public are required. Admission by audition.

Corequisite: Lab component. Prerequisite: Sophomore standing; director's consent. May be repeated for up to 2 hours of degree credit.

MUEN2471 Jazz Performance Laboratory II (Sp, Fa) Continuation of Jazz Performance Laboratory II. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2481 Campus Band II (Sp, Fa) Continuation of Campus Band I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission by audition or special approval. Corequisite: Lab component. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2501 Chamber Music II (Sp, Fa) Continuation of Chamber Music I. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2511 Symphonic Band II (Sp, Fa) Continuation of Symphonic Band I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Sophomore standing; director's consent. May be repeated for up to 2 hours of degree credit.

MUEN2521 Woodwind Quintet II (Sp, Fa) continuation of Woodwind Quintet I. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2541 Accompanying II (Sp, Fa) Continuation of Accompanying I. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Sophomore standing and MUAP 110V. May be repeated for up to 2 hours of degree credit.

MUEN2551 Percussion Ensemble II (Sp, Fa) Continuation of Percussion Ensemble I. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2551 Vocal Ensemble II (Sp, Su, Fa) Continuation of Vocal Ensemble I. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2711 Flute Ensemble II (Sp, Fa) Continuation of Flute Ensemble I. Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2721 Clarinet Ensemble II (Sp, Fa) Continuation of Clarinet Ensemble I. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2731 Saxophone Ensemble II (Sp, Fa) Continuation of Saxophone Ensemble I. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2751 Trumpet Ensemble II (Sp, Fa) Continuation of Trumpet Ensemble I. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2771 Trombone Ensemble II (Irregular) Continuation of Trombone Ensemble I. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours
per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN2781 Tuba Ensemble II (Sp, Fa) Continuation of Tuba Ensemble I. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

MUEN3341 Collegium Musicum III (Irregular) Continuation of Collegium Musicum II. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3401 Opera Theatre III (Sp, Fa) Continuation of Opera Theatre II. Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3411 Concert Choir III (Sp, Fa) Continuation of Concert Choir II. Large ensemble study and performance of a range of choral literature. Emphasis on proper vocal production, breathing, intonation, and vocal registration. Style and interpretative elements will be highlighted during the semester. Open to all interested students. Prerequisite: junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3421 Inspirational Chorale III (Sp, Fa) Continuation of Inspirational Chorale II. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Junior standing; by audition and approval of director. May be repeated for up to 2 hours of degree credit.

MUEN3431 Symphony Orchestra III (Sp, Fa) Continuation of Symphony Orchestra II. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Prerequisite: Junior standing; director's consent. May be repeated for up to 2 hours of degree credit.

MUEN3441 Marching Band III (Fa) Continuation of Marching Band II. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3451 Schola Cantorum III (Sp, Fa) Continuation of Schola Cantorum II. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3461 Wind Symphony III (Sp) Continuation of Wind Symphony II. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

MUEN3471 Jazz Performance Laboratory III (Sp, Fa) Continuation of Jazz Performance Lab II. Training in the various styles of jazz and popular
MUEN3751 Trumpet Ensemble III (Sp, Fa) Continuation of Trumpet Ensemble II. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3771 Trombone Ensemble III (Irregular) Continuation of Trombone Ensemble II. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN3781 Tuba Ensemble III (Sp, Fa) Continuation of Tuba Ensemble II. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

MUEN4341 Collegium Musicum IV (Irregular) Continuation of Collegium Musicum III. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4401 Opera Theatre IV (Sp, Fa) Continuation of Opera Theatre III. Study of opera through performances of scenes, chamber and major operatic production. Admission with director’s approval. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4411 Concert Choir IV (Sp, Fa) Continuation of Concert Choir III. Large ensemble study and performance of a range of choral literature. Emphasis on proper vocal production, breathing, intonation, and vocal registration. Style and interpretative elements will be highlighted during the semester. Open to all interested students. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4421 Inspirational Chorale IV (Sp, Fa) Continuation of Inspirational Chorale III. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director’s approval. Prerequisite: Senior standing; by audition and approval of director. May be repeated for up to 2 hours of degree credit.

MUEN4431 Symphony Orchestra IV (Sp, Fa) Continuation of Symphony Orchestra III. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Senior standing; director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN4441 Marching Band IV (Fa) Continuation of Marching Band III. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Senior Standing. May be repeated for up to 2 hours of degree credit.

MUEN4451 Schola Cantorum IV (Sp, Fa) Continuation of Schola Cantorum III. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Senior standing; director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN4461 Wind Symphony IV (Sp, Fa) Continuation of Wind Symphony III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition.

Corequisite: Lab component. Prerequisite: Senior standing; director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN4471 Jazz Performance Laboratory IV (Sp, Fa) Continuation of Jazz Performance Lab III. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4481 Campus Band IV (Sp, Fa) Continuation of Campus Band III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4501 Chamber Music IV (Sp, Fa) Continuation of Chamber Music III. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4511 Symphonic Band IV (Sp) Continuation of Symphonic Band III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Senior standing; director’s consent. May be repeated for up to 2 hours of degree credit.

MUEN4521 Woodwind Quintet IV (Sp, Fa) Continuation of Woodwind Quintet III. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4541 Accompanying IV (Sp, Fa) Continuation of Accompanying III. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Senior standing and MUAP 110V. May be repeated for up to 2 hours of degree credit.

MUEN4551 Percussion Ensemble IV (Sp, Su) Continuation of Percussion Ensemble III. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4581 Vocal Ensemble IV (Sp, Su, Fa) Continuation of Vocal Ensemble III. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4601 Opera Theatre V (Sp, Fa) Continuation of Opera Theatre IV. Study of opera through performances of scenes, chamber and major operatic production. Admission with director’s approval. Prerequisite: Two
semesters of MUEN 4401. May be repeated for up to 2 hours of degree credit.

MUEN4611 Concert Choir V (Sp, Fa) Continuation of Concert Choir IV. Large ensemble study and performance of a range of choral literature. Emphasis on proper vocal production, breathing, intonation, and vocal registration. Style and interpretative elements will be highlighted during the semester. Open to all interested students. Prerequisite: Two semesters of MUEN 4411. May be repeated for up to 2 hours of degree credit.

MUEN4621 Inspirational Chorale V (Sp, Fa) Continuation of Inspirational Chorale IV. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Two semesters of MUEN 4421. May be repeated for up to 2 hours of degree credit.

MUEN4631 Symphony Orchestra V (Sp, Fa) Continuation of Symphony Orchestra IV. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Prerequisite: Two semesters of MUEN 4431. May be repeated for up to 2 hours of degree credit.

MUEN4641 Collegium Musicum V (Irregular) Continuation of Collegium Musicum IV. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Two semesters of MUEN 4431. May be repeated for up to 2 hours of degree credit.

MUEN4651 Schola Cantorum V (Sp, Fa) Continuation of Schola Cantorum IV. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Two semesters of MUEN 4431. May be repeated for up to 2 hours of degree credit.

MUEN4661 Wind Symphony V (Sp, Fa) Continuation of Wind Symphony IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4461. May be repeated for up to 2 hours of degree credit.

MUEN4671 Jazz Performance Laboratory V (Sp, Fa) Continuation of Jazz Performance Laboratory IV. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Two semesters of MUEN 4471. May be repeated for up to 2 hours of degree credit.

MUEN4681 Campus Band V (Sp, Fa) Continuation of Wind Symphony IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4461. May be repeated for up to 2 hours of degree credit.

MUEN4711 Flute Ensemble IV (Sp, Fa) Continuation of Flute Ensemble III. Study and performance of music for multiple flutes, including trios, quartets, quintets, and the flute choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4721 Clarinet Ensemble IV (Sp, Fa) Continuation of Clarinet Ensemble III. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4731 Saxophone Ensemble IV (Sp, Fa) Continuation of Saxophone Ensemble III. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4751 Trumpet Ensemble IV (Sp, Fa) Continuation of Trumpet Ensemble III. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4771 Trombone Ensemble IV (Irregular) Continuation of Trombone Ensemble III. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4781 Tuba Ensemble IV (Sp, Fa) Continuation of Tuba Ensemble III. Study and performance of music for multiple tubas and euphonium, including trios, quartets quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

MUEN4801 Chamber Music V (Sp, Fa) Continuation of Chamber Music IV. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Two semesters of MUEN 4501. May be repeated for up to 2 hours of degree credit.

MUEN4811 Symphonic Band V (Sp) Continuation of Symphonic Band IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4511. May be repeated for up to 2 hours of degree credit.

MUEN4821 Woodwind Quintet V (Sp, Fa) Continuation of Woodwind Quintet IV. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Two semesters of MUEN 4521. May be repeated for up to 2 hours of degree credit.

MUEN4841 Accompanying V (Sp, Fa) Continuation of Accompanying IV. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4541. May be repeated for up to 2 hours of degree credit.
MUEN4851 Percussion Ensemble V (Sp, Su) Continuation of Percussion Ensemble IV. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4551. May be repeated for up to 2 hours of degree credit.

MUEN4881 Vocal Ensemble V (Sp, Su, Fa) Continuation of Vocal Ensemble IV. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Two semesters of MUEN 4581. May be repeated for up to 2 hours of degree credit.

MUEN4911 Flute Ensemble V (Sp, Fa) Continuation of Flute Ensemble IV. Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4711. May be repeated for up to 2 hours of degree credit.

MUEN4921 Clarinet Ensemble V (Sp, Fa) Continuation of Clarinet Ensemble IV. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4731. May be repeated for up to 2 hours of degree credit.

MUEN4931 Saxophone Ensemble V (Sp, Fa) Continuation of Saxophone Ensemble IV. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Two semesters of MUEN 4721. May be repeated for up to 2 hours of degree credit.

MUEN4941 Marching Band V (Fa) Continuation of Marching Band IV. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Two semesters of MUEN 4441. May be repeated for up to 2 hours of degree credit.

MUEN4951 Trumpet Ensemble V (Sp, Fa) Continuation of Trumpet Ensemble IV. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4751. May be repeated for up to 2 hours of degree credit.

MUEN4971 Trombone Ensemble V (Irregular) Continuation of Trombone Ensemble IV. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4771. May be repeated for up to 2 hours of degree credit.

MUEN4981 Tuba Ensemble V (Sp) Continuation of Tuba Ensemble IV. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4781. May be repeated for up to 2 hours of degree credit.

MUEN5041 Opera Theatre (Sp, Fa) Study of opera through performances of scenes, chamber and major operatic production. Admission with director’s approval. May be repeated for credit.

MUEN5411 Concert Choir (Sp, Su, Fa) Rehearsal 3 hours per week with extra rehearsals at the director’s discretion. Admission with director’s approval. No audition required prior to registration. May be repeated for credit.

MUEN5421 Inspirational Chorale (Sp, Fa) Performance of African-American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music and sacred world music. Rehearsal 3 hours per week. Admission with director’s approval. May be repeated for up to 2 hours of degree credit.

MUEN5431 Symphony Orchestra (Sp, Su, Fa) Rehearsal 3 hours per week with extra rehearsals at director’s discretion. Admission with director’s approval. Corequisite: Lab component. May be repeated for credit.

MUEN5441 Marching Band (Fa) Rehearsal 8 hours per week. Admission with director's approval. May be repeated for credit.

MUEN5451 Schola Cantorum (Sp, Fa) Vocal ensemble limited to the more experienced singers. Rehearsal 5 hours per week. Admission with director’s approval. May be repeated for credit.

MUEN5461 Wind Symphony (Sp, Fa) Rehearsal 3 to 5 hours per week. Admission by audition and approval of the conductor. Corequisite: MUEN 5460L. May be repeated for credit.

MUEN5471 Jazz Performance Laboratory (Sp, Fa) Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. May be repeated for credit.

MUEN5481 Campus Band (Sp) Rehearsal 3 hours per week. Admission by audition and approval of the conductor. May be repeated for credit.

MUEN5501 Chamber Music (Sp, Su, Fa) Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. May be repeated for credit.

MUEN5511 Symphonic Band (Sp) Rehearsal 3 hours per week. Admission by audition and approval of the conductor. May be repeated for credit.

MUEN5521 Woodwind Quintet (Sp, Fa) Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. May be repeated for credit.

MUEN5541 Accompanying (Sp, Fa) Piano accompanying of vocal and instrumental solos. Rehearsal 2 hours per week. Prerequisite: MUAP 110. May be repeated for credit.

MUEN5551 Percussion Ensemble (Sp, Su) Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. May be repeated for credit.

MUEN5711 Flute Ensemble (Sp, Fa) Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. May be repeated for credit.

MUEN5721 Clarinet Ensemble (Sp, Fa) Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. May be repeated for credit.

MUEN5751 Trumpet Ensemble (Sp, Fa) Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. May be repeated for credit.

MUEN5771 Trombone Ensemble (Irregular) Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. May be repeated for credit.

MUEN5781 Tuba Ensemble (Sp, Fa) Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets,
quintets, and low brass choir. Rehearsal 2 hours per week. May be repeated for credit.

Music History (MUHS)

MUHS3703 History of Music to 1750 (Fa) Survey of history of music in western culture from ancient Greece to 1750. Lecture 3 hours, listening/quiz laboratory 1 hour per week. Prerequisite: MLIT 1003 or MLIT 1003H; MUTH 2603; Music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or Bachelor of Music or Honors Bachelor of Music or Music minors or with instructor's consent.

MUHS3713 History of Music from 1750 to Present (Sp) Survey of the history of music in western culture from 1750 to present. Lecture 3 hours, listening/quiz laboratory 1 hour per week. Corequisite: Lab component. Prerequisite: MLIT 1003 or MLIT 1003H and MUTH 2603 and MUHS 3703; Music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Art or a degree of Bachelor of Music or Honors Bachelor of Music or Music minors or with instructor's consent.

MUHS398VH Honors Independent Studies (Sp, Su, Fa) (1-2) Independent projects in music history and literature. One hour credit per semester. Open to undergraduates in honors. May be repeated for up to 2 hours of degree credit.

MUHS4253 Special Topics in Music History (Sp, Fa) Topics not covered in MUHS 3703 or 3713, including history of American music, world music, music of Russia, and others. Satisfactory completion of the term paper in this class will fulfill the Fulbright College writing requirement. Prerequisite: MUHS 3703 and MUHS 3713. May be repeated for credit.

MUHS4623 Music History Review (Fa) Review of the central data and concepts of music history, with emphasis on individual periods as needed by students enrolled. Credit in this course may not count toward the Master of Music or Master of Education degree.

MUHS4703 Survey of String Literature (Irregular) A survey of solo and chamber music literature involving stringed instruments. Prerequisite: MUAP 110 and MUTH 3613.

MUHS4733 Survey of Symphonic Literature (Even years, Sp) A survey of the symphonic literature from its beginning to the present.

MUHS4763 Survey of Vocal Literature I (Even Years, Fa) A survey of concert literature for the solo voice.

MUHS4773 Survey of Vocal Literature II (Odd years, Sp) A survey of concert literature for the solo voice. Prerequisite: MUHS 4763.

MUHS4793 Seminar in Music History (Irregular) (1-4) Subject matter not covered in other courses. With permission, may be repeated for credit if topics are different.

MUHS498V Senior Thesis (Sp, Su, Fa) (1-6)

MUHS522 Directed Studies in Music Literature I (Sp, Su, Fa) Research in music literature in the performance field of the individual student.

MUHS5722 Directed Studies in Music Literature II (Sp, Su, Fa) Research in music literature in the performance field of the individual student. Prerequisite: MUHS 5722.

MUHS5753 Seminar in Medieval & Early Renaissance (Irregular) Intensive studies in music of Western Europe from early Christian times through the 15th century.

MUHS5773 Seminar in Music of the 18th Century (Irregular) Intensive studies of late Baroque and Classical music.

MUHS5783 Seminar in Music of the 19th Century (Odd years, Sp, Su) Intensive studies in music of the 19th century.

MUHS5793 Seminar in Music of the 20th Century (Even years, Fa) Intensive studies in 20th century music.

MUHS5903 Seminar in Musicology (Irregular) Current problems, techniques, and approaches to the practice of musicology, including notation and editing problems. May be repeated for credit.

MUHS593 Seminar in Opera (Irregular) Intensive studies in operatic literature.

MUHS595 Seminar in Music Literature (Irregular) Intensive studies in music literature in the performance field of the individual student.

MUHS5973 Seminar in Medieval & Early Renaissance (Irregular) Intensive studies of late Baroque and Classical music.

MUHS5983 Seminar in Music of the 19th Century (Irregular) Intensive studies in music of the 19th century.

MUHS5993 Seminar in Music of the 20th Century (Irregular) Intensive studies in 20th century music.

MUHS600V Master's Thesis (Sp, Su, Fa) (1-6)

Music Pedagogy (MUPD)

MUPD301 Conducting I (Fa) A study of the elementary techniques of conducting instrumental and choral groups. Prerequisite: MUTH 2603.

MUPD3811 Conducting II: Instrumental Music (Sp) Continuation of study of the technique of conducting instrumental music groups. Prerequisite: MUDP 3801.

MUPD3861 Conducting II: Vocal Music (Sp) Continuation of study of conducting with emphasis on techniques of choral conducting. Prerequisite: MUDP 3801.

MUPD3871 Reed-Making (Fa) The making of reeds for oboe, bassoon, or clarinet, including the processing of cane from tubes. May be repeated for up to 2 hours of degree credit.

MUPD477V Special Topics in Pedagogy (Irregular) (1-6) Subject matter not covered in other sources. With permission, may be repeated for credit if topics are different.

MUPD481V Conducting (Sp, Su, Fa) (1-4) Private lessons of 1/2 hour, and one hour conducting laboratory each week. Development of skills in
conducting symphony, opera, oratorio, ballet and band repertoire. May be repeated for credit.

MUPD4863 Piano Pedagogy (Irregular) Analytical study and discussion of the various approaches to piano pedagogy and its application in individual/class instruction. Involves demonstration of principles through actual teaching of beginning, intermediate and upper level students.

MUPD499V Special Workshop in Music (Sp, Su, Fa) (1-2) Presented by visiting master artist-teachers in various fields of music performance, teaching and composition. For this level it is expected that the prospective students are professionals in the given field seeking additional knowledge and insights from acknowledged professionals. May be repeated for up to 2 hours of degree credit.

MUPD5202 Voice Pedagogy I (Irregular) Graduate-level study of the techniques and materials of teaching voice.

MUPD582V Conducting (Sp, Su, Fa) (1-2) Private lessons of 1/2 hour and 1 hour conducting laboratory each week. Development of skills in conducting symphony, choral, opera, oratorio, ballet, and band repertoire. May be repeated for up to 18 hours of degree credit.

MUPD584V Opera Workshop Techniques (Sp, Su, Fa) (1-2) A basic course in every phase of opera production, including staging, set design, music coaching, voice casting, and translation.

MUPD586V Woodwind Techniques (Sp, Su, Fa) (1-2) A continuation of the undergraduate courses in techniques and materials for elementary and secondary school music teaching. Prerequisite: One year of similar class instruction in the field on the undergraduate level.

MUPD587V Brass Techniques (Su) (1-2) A continuation of the undergraduate class brass instrument course. Emphasis is placed on teaching methods, techniques, concepts, and materials. Prerequisite: One year of similar class instruction in the field on the undergraduate level.

MUPD599V Special Workshop in Music (Sp, Su, Fa) (1-6) Presented by visiting master artist-teacher in various fields of music performance, teaching and composition. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

Music (MUSC)

MUSC3923H Honors Colloquium in Music (Irregular) Covers a special topic or issue offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in Music). May be repeated for up to 9 hours of degree credit.

MUSC490VH Honors Essay (Irregular) (1-6) An honors research paper in Music History or literature, Ethnomusicology, Music Theory, or Music Education. Open to seniors in honors.

Ethnomusicology (MUSY)

MUSY4113 Pro-Seminar: Ethnomusicology (Irregular) An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. May be repeated for up to 6 hours of degree credit.

MUSY4113H Pro-Seminar: Honors Ethnomusicology (Irregular) An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. May be repeated for up to 6 hours of degree credit.

MUSY4313H Honors Special Topics in Asian and Middle Eastern Musics (Irregular) Research seminars on selected topics in Asian and Middle Eastern Musics.

MUSY477V Independent Research in Ethnomusicology (Irregular) (1-4) Subject matter not covered in other courses. In-depth study of specialized topics in contemporary, historical, or systematic ethnomusicology, and practical instruction in essay-structuring and presentation. May be repeated for up to 4 hours of degree credit.

MUSY5113 Proseminar: Ethnomusicology (Irregular) An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. (Same as MUSY 4113) May be repeated for up to 6 hours of degree credit.

MUSY5313 Proseminar: Topics in Asian and Middle Eastern Musics (Irregular) Research seminars on selected topics, such as The Performing Arts in East Asia; and Music and Ritual. May be repeated for up to 6 hours of degree credit.

MUSY5323 Seminar: Topics in Asian and Middle Eastern Poetry and Music (Irregular) Reading seminars on selected topics, such as Poetry and Music in Persian, Arabic and Turkish Cultures of the Islamic World; and Poetry and Song in Early East Asia. May be repeated for up to 6 hours of degree credit.

MUSY5343 Seminar: Special Topics in Traditional Musics and Dance of Europe and the Americas (Irregular) Topics not covered in MUSY 5223 and MUSY 5423, including, but not limited to: European Folk Music; the musical or scholarly legacy of a particular figure.


MUSY6333 Advanced Studies in Ethnomusicology (Irregular) Advanced level studies, individually tailored and supervised, including Ethnomusicology (prerequisite MUSY 5113 or MUSY 5213); The Music or Dance of a Selected Area (prerequisite at least one of MUSY 5313, MUSY 5323, MUSY 5423, MUSY 5223, MUSY 5343, or HUMN 4243); Historic Performance Practices (prerequisite MUSY 5413); Historical East Asian Musicology (prerequisite MUSY 5313 or MUSY 5323); and Historical Central Asian or Middle- and Near-Eastern Musicology (prerequisite MUSY 5313 or MUSY 5323).

Music Theory (MUTH)

MUTH1003 Basic Musicianship (Su) Introductory-level studies in music theory and aural perception for students not prepared for MUTH 1603 or MUTH 1621. Meets 4 days per week.
MUTH1603 Music Theory I (Sp) A study of diatonic harmonic practice. Includes part-writing and analysis. Prerequisite: MUTH 1003 or permission of instructor.

MUTH1621 Aural Perception I (Sp) Development of aural perception through ear training, sight singing, and keyboard harmony. Meets 2 hours per week.

MUTH1631 Aural Perception II (Fa) Continued development of aural perception through ear training, sight singing, and keyboard harmony. Meets 2 hours per week. Prerequisite: MUTH 1621.

MUTH164V Composition I (Sp, Su, Fa) (1-4) Private lessons of one-half hour, and one hour of composition laboratory session each week. Development of skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Music theory or composition major. May be repeated for up to 8 hours of degree credit.

MUTH2603 Music Theory II (Fa) A continuation of MUTH 1603. Also includes chromatic harmony. Prerequisite: MUTH 1603. (Same as MUTH 3603)

MUTH2621 Aural Perception III (Sp) A continuation of MUTH 1631. Two hours per week, one hour credit. Prerequisite: MUTH 1631.

MUTH2631 Aural Perception IV (Fa) A continuation of MUTH 2621. Two hours per week, one hour credit. Prerequisite: MUTH 2621.

MUTH264V Composition II (Sp, Su, Fa) (1-4) Continuation of Composition I. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 164V with grades of "B" and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUTH3603 18th Century Counterpoint (Sp) A study of 18th century counterpoint. Writing and analysis of inventions, canons, fugues, etc. Three hours per week. Prerequisite: MUTH 2603. (Same as MUTH 2603)

MUTH3613 Form and 20th Century Techniques (Fa) A study of the harmonic and melodic trends of the 20th century. Three hours per week. Prerequisite: MUTH 2603.

MUTH364V Composition III (Sp, Su, Fa) (1-4) Continuation of Composition II. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 264V with grades of B and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUTH364VH Honors Composition III (Sp, Su, Fa) (1-4) Continuation of Composition II for honors students. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for honors composition-theory majors. Prerequisite: Two semesters of MUTH 264V with grades of "B" and recommendation of instructor; honors standing. May be repeated for up to 8 hours of degree credit.

MUTH4322 Score Reading (Irregular) A conductor's approach to the technique of score reading and analysis of orchestra, band, and choral scores for the purpose of preparing composition for rehearsal and performance.

MUTH4612 Orchestration (Sp) A continuation of study of the capabilities of the various orchestral and band instruments and their use in arrangement for ensembles, band, and orchestra. Scoring for orchestra. Prerequisite: MUTH 3613.

MUTH462V Music Theory Review (Su, Fa) (1-3) A continuation and intensification of undergraduate music theory. (May not count for credit toward the Master of Music degree.)

MUTH464V Composition IV (Sp, Su, Fa) (1-4) Continuation of Composition III. Private lessons of one-half hour and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 364V with grades of "B" and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUTH464VH Honors Composition IV (Sp, Su, Fa) (1-4) Continuation of Composition III. Private lessons of one-half hour and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 364V with grades of B and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

MUTH4703 Writing Music Analysis (Sp) Analysis of music with an emphasis on analytical writing skills and the use of library source materials.

MUTH477V Special Topics in Music Theory (Irregular) (1-4) Subject matter not covered in other courses. May be repeated for up to 4 hours of degree credit.

MUTH477VH Honors Special Topics in Music Theory (Irregular) (1-4) Subject matter not covered in other courses. May be repeated for up to 4 hours of degree credit.

MUTH4923H Honors Colloquium in Music Theory (Irregular) Covers a special topic or issue, offered as part of the honors program.

MUTH498V Senior Thesis (Sp, Su, Fa) (1-18)

MUTH5343 Analytical Techniques (Irregular) An intensive study of selected works from music literature. Schenkerian analysis, rhythmic analysis, and set theory analytical techniques will be studied and employed in addition to traditional harmonic and formal analysis. Prerequisite: MUTH 3613 or equivalent and graduate standing.

MUTH5623 Pedagogy of Theory (Irregular) Detailed study of methods of teaching undergraduates courses in music theory and aural perception. Prerequisite: Graduate standing.

MUTH5631 Music Theory Teaching Practicum (Irregular) Supervised teaching of an undergraduate course in music theory or aural perception, including lesson plan and examination preparation and in-class observation.

MUTH5643 Analysis of 20th Century Music (Irregular) Study of 20th century music and analytic techniques including pitch class set theory and serial techniques. Prerequisite: Graduate standing.
MUTH5662 Instrumental Arranging (Su) A practical course in arranging for the various small ensembles including keyboard. Review of instrumental ranges and capabilities. Study of current trends in instrumental ranges and arranging.

MUTH5672 Advanced Orchestration (Irregular) A study of advanced principles of orchestral writing through individual projects in scoring and analysis. Prerequisite: MUTH 4612 or equivalent.

MUTH568V Composition (Sp, Su, Fa) (1-4) Private lessons of one-half hour, and one hour of composition laboratory session each week. Development of skills in creative musical expression specifically for composition-theory majors - others admitted by consent. Prerequisite: Graduate standing. May be repeated for credit.

MUTH599V Independent Study in Music Theory (Irregular) (1-6) Provides students with an opportunity to pursue special study of topics in music theory. May be repeated for up to 12 hours of degree credit.

MUTH600V Master's Thesis (Sp, Su, Fa) (1-6) A study of a selected problem under supervision of a faculty advisor. Graduation standing. May be repeated for credit.

Nursing (NURS)

NURS2012 Nursing Informatics (Sp, Su, Fa) This course focuses on how information technology is used in the health care system. The course describes how nursing informatics is currently being used by healthcare professionals and speculates about future applications. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 or above.

NURS2022 Introduction to Professional Nursing Concepts (Sp, Su, Fa) The course presents an overview of theories, principles and concepts essential to professional nursing practice. It includes ethical and legal implications relevant to health care systems. Focus is on the nursing process as the organizing framework for the delivery of care. It also explores the role of the professional nurse. This is a pre-nursing course. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 or above.

NURS2032 Therapeutic and Interprofessional Communication (Sp, Su, Fa) Focuses on interpersonal and interprofessional strategies necessary for effective nurse-client interactions. Introduces a variety of communication techniques including group process and dynamics. This is a pre-nursing course. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 or above.

NURS217V Independent Study in Nursing (Sp, Su, Fa) (1-2) A selected learning experience in nursing to enhance knowledge about and/or practice in the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be repeated for up to 12 hours of degree credit.

NURS217VH Honors Independent Study in Nursing (Irregular) (1-2) A selected learning experience in nursing to exchange knowledge about and/or practice in the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be repeated for up to 7 hours of degree credit.

NURS313 Pharmacology in Nursing (Fa) The use of therapeutic drugs in health care is the focus of the course. Nursing assessment, safety measures and client education related to drug therapy are emphasized. This is a Level I course. Prerequisite: Admission into the BSN professional program.

NURS3314 Pathophysiology (Sp, Fa) The course focuses on underlying concepts common to pathophysiologic processes across the life span. Factors that contribute to altered physiological functioning and the body’s adaptive and compensatory mechanisms are studied. Emphasizes concepts essential for understanding the rationale for preventive and therapeutic nursing interventions in health and illness. This is a Level I course. Prerequisite: Admission into BSN professional program.

NURS3314H Honors Pathophysiology (Sp, Fa) The course focuses on underlying concepts common to pathophysiologic processes across the life span. Factors that contribute to altered physiological functioning and the body’s adaptive and compensatory mechanisms are studied. Emphasizes understanding the rationale for preventive and therapeutic nursing interventions in health and illness. This is a Level I course. Prerequisite: Admission into BSN professional program.

NURS3321L Health Assessment (Fa) The course focuses on assessment of client’s health status, environment, nursing care needs, and referral needs. The course presents concepts and skills necessary to perform a holistic health assessment of the adult client. This is a Level I course. Prerequisite: Admission to the BSN professional program.

NURS3402 Nursing Concepts: Older Adult (Sp, Fa) This course focuses on gerontologic theories, concepts, and principles as they relate to nursing care of older adults. Students explore socio-cultural context of gerontologic nursing, professional standards of practice, common health concerns, and future considerations. This is a Level I course. Prerequisite: Admission into the BSN Professional Program of Studies.

NURS3422 Nursing Concepts: Foundations of Professional Practice (Fa) Introduction to the nursing process and the scope of basic human needs. The student learns to use nursing diagnoses and care plans in case studies. This is a Level I course. Corequisite: NURS 3423. Prerequisite: Admission to BSN professional program.

NURS3424 Professional Role Implementation I: Caregiver (Fa) Students apply basic nursing concepts and skills in laboratory and clinical settings. Emphasis is on the role of nurse as caregiver and use of the nursing process in the delivery of care. This is a Level I course. Pre- or Corequisite: NURS 3422, NURS 3321L, and NURS 3313. Prerequisite: Admission to the BSN program.

NURS3634 Nursing Concepts: Adult Health and Illness I (Sp, Fa) Focuses on the adult population experiencing acute problems in the health-illness continuum. Utilizing the nursing process, nursing, and medical treatments of selected conditions that will be emphasized in the acute care setting. This is a Level I course. Corequisite: NURS 3644. Prerequisite: NURS 3313, 3314, 3321L, 3402, and 3422.

NURS3644 Professional Role Implementation II: Caregiver (Sp, Fa) Emphasizes the role of caregiver in acute care settings. Course expands on assessment and includes advanced clinical skills. Emphasizes the use of clinical judgment to promote optimal health for adults experiencing illness and/or undergoing surgery. This is a Level I course. Pre- or Corequisite: NURS 3634. Prerequisite: NURS 3313, 3314, 3321L, 3402, 3422, and 3424.
NURS3742 Nursing Concepts: Mental Health and Illness (Sp, Fa) Presents the basic concepts and theories of mental health and illness. Examines various therapeutic modalities in the care of clients experiencing mental health or psychosocial disorders. This is a Level I course. Corequisite: NURS 3752. Prerequisite: NURS 3313, 3314, 3321L, 3402, and 3422.

NURS3752 Professional Role Implementation III: Caregiver (Sp, Fa) Students work with clients who have mental health problems, observe group process in therapy sessions, and develop interpersonal communication skills. Students apply research-based knowledge in assisting assigned clients to meet mental and other health care needs. The caregiver role is emphasized. This is a Level I course. Prerequisite: Completion of Level I courses. Pre- or Corequisite: NURS 3742. Prerequisite: NURS 3313, 3314, 3321L, 3402, 3422, and 3424.

NURS3842 Research in Nursing (Sp, Fa) Introduction to the research process through a comparative analysis of selected studies exemplifying various theoretical, methodological and analytical approaches. Students acquire the basic competencies to critically read, evaluate and interpret nursing research studies for use in professional nursing practice. This is a Level I course.

NURS4003 Transition to Professional Nursing Practice (Fa) The course introduces the RN student to the standards and concepts of professional nursing based on the Essentials of Baccalaureate for Professions Nursing Education. Prerequisite: Admission to the RN-BSN program.

NURS4013 Informatics for the Professional Nurse (Su) This course focuses on how information technology is used in the health care system. The course describes how nursing informatics is currently being used by healthcare professionals, and speculates about future applications. Prerequisite: Admission to the RN-BSN program.

NURS4112 Nursing Concepts: Teaching and Health Promotion (Sp, Fa) The course focuses on teaching/learning and the professional nurse’s role in health promotion and disease prevention. A variety of health education and health promotion strategies are presented and evaluated. This is a Level II course. Prerequisite: Completion of Level I courses.

NURS4115 Nursing Concepts: Children and Family (Sp, Fa) This course provides theory and research-based knowledge regarding holistic nursing care of children and families. Principles of health promotion and health education for expanding families are integral to this course. This is a Level II course. Corequisite: NURS 4164. Prerequisite: Completion of Level I courses.

NURS4164 Professional Role Implementation IV: Teacher (Sp, Fa) Clinical and laboratory experience for application of research-based knowledge and skills in the nursing care of children and families. Emphasis is on teaching role of the nurse. This is a Level II course. Prerequisite: Completion of Level I courses. Pre- or Corequisite: NURS 4154. Prerequisite: Completion of Level I courses.

NURS4203 Leading and Managing in Healthcare Micro-environments (Fa) This course introduces theories and principles of management and leadership and the professional nurse’s role within the health care system. Social issues, economic policy, and regulatory requirements are used to explore healthcare delivery systems and access, quality improvement, and patient safety. This course includes strategies for monitoring delivery of care, outcomes, and evaluating program effectiveness. Prerequisite: Admission into the RN-BSN program.

NURS4242 Management in Nursing (Sp, Fa) Introduces principles of management and the professional nurse’s roles in the health care system. Considers the perspectives of management, organization, and change theory. Includes strategies for monitoring delivery of care, outcomes and evaluating program effectiveness. This is a Level II course.

NURS4252 Professional Role Implementation V: Manager (Sp, Fa) Students will apply the theoretical principles learned in NURS 4242 and NURS 4262 to the delivery of care to adults with chronic conditions across transitions of care settings. The manager will be emphasized. This is a Level II course. Prerequisite: Completion of Level I courses. Pre- or Corequisite: NURS 4242 and 4262.

NURS4262 Nursing Concepts: Adult Health and Illness II (Sp, Fa) Focuses on the adult population experiencing chronic problems in the health-illness continuum. Utilizing the nursing process, nursing and medical treatment of selected conditions will be emphasized across transitional care settings. This is a Level II course. Prerequisite: Level I courses.

NURS4323 Health Assessment and Clinical Reasoning for Professional Nurses (Sp) This 3-credit theory course builds on the Registered Nurse’s clinical experience and knowledge of health assessment. Emphasis is placed on expanding physical assessment skills, interpreting abnormal findings, and applying the principles of evidence-based practice to the health assessment process. The role of documentation of health assessment in third party reimbursement is also explored. Prerequisite: Admission to the RN-BSN program.

NURS4442 Nursing Concepts: Critical Care (Sp, Fa) Focuses on the adult population experiencing multiple or critical illnesses or conditions necessitating admission to a critical care unit. The course emphasizes both nursing and medical treatment of selected conditions. This is a Level II course.

Corequisite: NURS 4452. Prerequisite: Completion of Level I courses and NURS 4112, 4154, 4164, 4242, 4252, and 4262.

NURS4452 Professional Role Implementation VI: Role Synthesis (Sp, Fa) Clinical learning is focused on further developing and refining the knowledge, skills, and attitudes necessary to manage the care of an acutely ill or complex patient and/or family within the context of an inter-professional team. This is a Level II course. Prerequisite or Corequisite: NURS 4442. Prerequisite: Completion of Level I and NURS 4112, 4154, 4164, 4242, 4252, and 4262.

NURS4603 Nursing Concepts: Community (Sp, Fa) The course focuses on theories and concepts in community health nursing. Health resources are explored in a variety of settings. This is a Level II course. Corequisite: NURS 4613. Prerequisite: Completion of Level I courses and NURS 4112, 4154, 4164, 4242, 4252, and 4262.

NURS4613 Professional Role Implementation VII: Role Synthesis (Sp, Fa) Application of community health concepts and the nursing process to promote community health and to restore health in a variety of settings. This is a Level II course. Prerequisite or Corequisite: NURS 4603. Prerequisite: Completion of Level I courses and NURS 4112, 4154, 4164, 4242, 4252, 4262.

NURS4701 Professional Nursing Synthesis (Sp, Su, Fa) The course emphasizes reflection, integration, and synthesis of concepts from previous courses. Course enrollment occurs in the last semester of the program. Prerequisite: Admission into the RN-BSN program.

NURS4712 Seminar in Nursing (Sp, Fa) Focuses on integrating the nursing caregiver, teacher and manager roles. Prepares students to
analyze practice issues, trends and future demands. Explores the roles of baccalaureate prepared professional nurses and facilitates students to incorporate those roles as they enter professional practice. Must be taken in the final semester of the Professional Program of Study. This is a Level II course. Corequisite: NURS 4722. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, and NURS 4262.

NURS4722 Professional Role Implementation VIII: Role Synthesis (Sp, Fa) Clinical immersion experience that approximates the role of a beginning BSN nurse generalist. Corequisite: NURS 4712. Prerequisite: Completion of Level I courses and NURS 4112, 4154, 4164, 4242, 4252, 4262. To be taken in final semester of the Professional Program of Study.

NURS481V Special Topics in Nursing (Irregular) (1-6) This course is the study of a special topic(s) in nursing. Content varies. May be repeated for up to 6 hours of degree credit.

NURS481VH Honors Special Topics in Nursing (Irregular) (1-6) This course is the study of a special topic(s) in nursing. Content varies. May be repeated for up to 6 hours of degree credit.

NURS491V Independent Study in Nursing (Sp, Su, Fa) (1-6) A selected learning experience in nursing to enhance knowledge and/or practice of the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be taken with any 3500-level nursing course or above.

NURS491VH Honors Independent Study in Nursing (Irregular) (1-6) A selected learning experience in nursing to enhance knowledge and/or practice of the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be taken with any 3500-level nursing course or above.

NURS5003 Theoretical Foundations in Nursing (Fa) The course utilizes the critical reasoning process to examine the element of nursing knowledge. Emphasis is placed on concept analysis and the evaluation of nursing theories. Identification of the links between theory and empirical indicators is examined. The clinical relevance of mid-range and practice theories is explored.

NURS5033 Role Development of the Advanced Practice Clinical Nurse Specialist (Fa) The study of role development of the Advanced Practice Nurse with specific emphasis on the role of the Clinical Nurse Specialist (CNS). Concepts include role development, interdisciplinary communication and collaborative strategies, patient advocacy and serving as change agent for role implementation. Pre- or Corequisite: NURS 5003.

NURS5043 Advanced Concepts in Health Promotion with Diverse Populations (Fa) Provides a theoretical base for health promotion, risk reduction and disease prevention at the individual, family and community levels. A cross-disciplinary approach to achieve or preserve health is identified. Focuses on holistic plans and interventions that address the behavioral and social factors that contribute to morbidity and mortality in diverse populations. Provides opportunity to develop, implement, and evaluate health promotion interventions for selected clients.

NURS5053 Evidence-Based Practice and Innovation in Nursing (Sp) This course focuses on developing evidence-based practice and innovation in nursing. Models and strategies for leadership in evidence-based practice and innovation, outcomes management, and translational scholarship will be examined.

NURS5063 Health Care Policy (Su) The course provides the concepts of the political process, health care policy, advocacy, leadership skills, legislative and regulatory issues, health care financing, designing and implementing health care policies and evaluating outcomes. Access, cost, and quality of health care will be a major focus of the course. Prerequisite: Admission to the graduate program or by permission of the instructor.

Reading seminar surveying major works on representative processes in American national politics, including political opinion, political leadership, political participation, voting behavior, political parties, and interest groups. Prerequisite: Graduate standing.

PLSC5233 The American Chief Executive (Odd years, Sp) Study of the origin, background, and evolution of the Office of the President of the United States, with a review of the president's powers in the areas of politics, administration, and legislation.

PLSC5243 Seminar in State Politics and Policy (Even Years, Fa) Research seminar dealing with selected aspects of state political institutions and politics such as policy diffusion, institutional professionalization, and representation. Prerequisite: Graduate standing.

PLSC5383 Seminar in Political Communication (Irregular) Research seminar focusing on selected topics such as candidate imagery, diffusion of political information, or political symbolism. Prerequisite: Graduate standing. (Same as COMM 5383)

PLSC5503 Comparative Political Analysis (Fa) A selection of topics to provide the theoretical, conceptual and methodological and foundation for the analysis of contemporary political systems. Prerequisite: Graduate standing.

PLSC5513 Seminar in Politics of the Middle East (Irregular) Explores the major lines of inquiry on the politics of the state and society in the context of endogenous and exogenous forces that have influenced conceptions of power, legitimacy, and identity. Prerequisite: Graduate standing.

PLSC5523 Topics in Politics of the Middle East (Irregular) In-depth analysis of specific political phenomena in the contemporary Middle East. Inquiry will vary but may focus on gender, political economy, politics of inclusion and exclusion (democratization and authoritarianism), or the politics of oil. Prerequisite: Graduate standing.

PLSC5803 Seminar in International Politics (Fa) Research seminar providing intensive coverage of selected topics in theories of international relations, the comparative study of foreign policy making, and international organizations. Prerequisite: Graduate standing.

PLSC5833 Seminar in Contemporary Problems (Fa) Seminar with concentrated reading in selected and specialized areas of contemporary international relations. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

PLSC5843 International Legal Order (Fa) Analysis of distinctive characteristics of contemporary international law. Topics include role of legal order in controlling the use of force in international relations and the impact of social and political environment on growth of international law and relations among international political systems. Prerequisite: Graduate standing.

PLSC590V Directed Readings in Political Science (Sp, Su, Fa) (1-3) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.
PLSC5913 Research Methods in Political Science (Fa) Methods relevant to research in the various fields of political science. Required of all graduate students in political science. Prerequisite: Graduate standing.

PLSC592V Internship in Political Science (Sp, Su, Fa) (1-6) Internship in a local, state, regional, or federal agency. Paper required on a significant aspect of internship experience. Prerequisite: Graduate standing.

PLSC593V Special Topics (Sp, Su, Fa) (1-3) Topics in political science not usually covered in other courses. Prerequisite: Graduate Standing. May be repeated for up to 3 hours of degree credit.

PLSC595V Research Problems in Political Science (Sp, Su, Fa) (1-3) Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

PLSC5983 Mixed Methods Research Design (Sp) An advanced overview of a particular type of multi-point research design. Mixed methods research combines quantitative and qualitative research strategies in a single research project.

PLSC600V Master's Thesis (Sp, Su, Fa) (1-6)

Poultry Science (POSC)

POSC1002 Introduction to Careers in Poultry Science (Fa) To introduce the student to the career opportunities in the poultry science industry. Corequisite: Lab component.

POSC1012 Avian Biology (Sp) Students will be introduced to biological sciences associated with poultry. Topics will include avian origin, anatomy, physiology and behavior. Course will serve as foundation for poultry production courses. Lecture 2 hours.

POSC1062 Sustainable Integrated Small Animal Farming (Sp) Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented. (Same as ANSC 1062)

POSC2343 Poultry Production (Fa) To develop a basic foundation about the practices utilized to produce broilers and turkeys. Course will highlight hatchery function and management; embryo development and hatching; chick/poultry transportation, preparation and maintenance of facilities for rearing birds, bird environment, nutrition, and health. Also to be covered are the different roles associated with live production in an integrated company. Corequisite: Lab component.

POSC2353 Poultry Breeder Management (Sp) Students will be introduced to the management practices used in production of young and adult chickens, turkeys, and other poultry with special emphasis on breeder, breeder, and market egg production. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Pre- or Corequisite: POSC 1012.

POSC3013 Exotic Companion Birds (Odd years, Fa) Topics include basic care, health, breeding, bird evolution, anatomy, and nutritional management of commonly kept exotic companion birds, including parrots, cockatoos, macaws, finches, canaries, and pigeons. Discussion will include housing and care for individual pet birds and large scale breeding and production. Lecture/discussion 3 hours per week. Prerequisite: BIOL 1543.

POSC3032 Animal Physiology I (Fa) Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1074. (Same as ANSC 3032)

POSC3042 Animal Physiology II (Sp) Fundamental aspects of renal, respiratory, digestive, and endocrine physiology will be covered. The normal structure and function of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073. (Same as ANSC 3042)

POSC3123 Principles of Genetics (Fa) Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher. (Same as ANSC 3123)

POSC3223 Poultry Diseases (Fa) Common diseases affecting poultry reared under commercial conditions will be covered including diagnosis, therapy and prevention. Immunity, sanitation practices, and chemoprophylaxis will also be covered. Lecture 3 hours per week with some demonstrations, slides and videotapes. Prerequisite: BIOL 2013 and BIOL 2011L and junior standing.

POSC3381 Poultry Judging and Selection (Sp, Fa) Practice in production judging and flock selection. Laboratory 3 hours per week. May be repeated for up to 4 hours of degree credit.

POSC3554 Avian Anatomy (Sp) Detailed coverage of the external and internal anatomy of poultry, including formation and development of the egg and embryo. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1543.

POSC400V Special Problems (Sp, Su, Fa) (1-9) Special problems in the poultry sciences for advanced students. May be repeated for up to 9 hours of degree credit.

POSC401V Internship in Poultry Science (Sp, Su, Fa) (1-6) Supervised work experience with private or government organizations to introduce students to professional areas of work in poultry science. Prerequisite: Junior standing. May be repeated for up to 8 hours of degree credit.

POSC4033 Statistical Process Control in the Food Industry (Irregular) Analysis of processing data related to compliance with regulatory limits, quality & safety limits and internal & external customer specifications. Emphasizes statistical process control chart development, including understanding data and chart selection, calculating statistical limits, and interpreting process performance. Prerequisite: Instructor consent.

POSC410V Special Topics in Poultry Science (Irregular) (1-4) Topics not covered in other courses or for a more intensive study of specific topics in poultry science.

POSC4213 Integrated Poultry Management Systems (Even years, Sp) Major managerial systems in the integrated commercial poultry industry. Development of an understanding of the basic decision making processes of poultry companies and the factors influencing those decisions. Prerequisite: POSC 2353 and AGEC 1103 and AGEC 2303.

POSC4233 Value Added Muscle Foods (Even years, Sp) An intense study of muscle structure and how it relates to the development of further processed meat products. Muscle ultrastructure, protein functionality, product development, and quality analysis will be covered. In class hands on activities will also be included to allow students to obtain experience of producing processed meat products. Prerequisite: POSC 4314.

POSC4314 Egg and Meat Technology (Fa) Study of the science and practice of processing poultry meat and egg products; examination of
the physical, chemical, functional and microbiological characteristics of value added poultry products; factors affecting consumer acceptance and marketing of poultry products and the efficiency of production. Corequisite: Lab component. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1074 and CHEM 1071L) and BIOL 1543 and BIOL 1541L.

POSC4333 Poultry Breeding (Odd years, Fa) Application of new developments in poultry breeding for efficient egg and meat production. Not intended for students interested in a career in veterinary sciences. Lecture 3 hours per week. Prerequisite: MATH 1203 or higher and junior standing.

POSC4343 Poultry Nutrition (Sp) Principles of nutrition as applied to the formulation of practical chicken and turkey rations. Lecture 3 hours per week. Prerequisite: CHEM 2613 or CHEM 3603 and junior standing.

POSC4801 Undergraduate Seminar (Odd years, Sp) Required by all poultry science majors. Prerequisite: Junior or Senior standing and COMM 1313.

POSC4811 Seminar: Professionalism (Odd years, Fa) Addressing issues associated with preparation for finding and retaining your first job in the poultry industry. Lecture 1 hour per week. Prerequisite: Junior or Senior standing.

POSC4821 Seminar: Problem Solving (Even years, Sp) Real world problem solving of poultry production systems. Lecture 1 hour per week. Prerequisite: Junior/ senior standing.

POSC4831 Seminar: Processing Regulations (Even years, Fa) Processing plant procedures and regulations with an emphasis on problem solving. Lecture 1 hour per week. Prerequisite: Junior or senior standing.

POSC4923 Brain and Behavior (Fa) Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory and autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: CHEM 3813. Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: ANSC/POSC 3032 or ANSC/POSC 3042, or PSYC 2003, or BIOL 2443, or BIOL 2533.

POSC500V Special Problems (Sp, Su, Fa) (1-6) Work in special problems of poultry industry. Prerequisite: Graduate standing.

POSC510V Special Topics in Poultry Sciences (Irregular) (1-4) Topics not covered in other courses or a more intensive study of specific topics in poultry science. Prerequisite: Graduate standing. May be repeated for credit.

POSC5113 Food Toxicology and Contaminants (Irregular) During this course, the student will learn basic concepts of food toxicity, study the different physiological processes involved in food borne intoxications, and learn about potential health problems associated with exposure to these compounds. Prerequisite: Graduate study.

POSC5123 Advanced Animal Genetics (Even years, Fa) Specialized study of animal genetics. Lecture 3 hours per week. Prerequisite: POSC 3123 or ANSC 3123. (Same as ANSC 5123)

POSC5152 Protein and Amino Acid Nutrition (Even years, Sp) Students will be introduced to the basic processes of protein digestion, amino acid absorption, transport, metabolism, and utilization along with how biochemical function of proteins and their dynamic state affect nutritional status for animals and man. Prerequisite: CHEM 3813. (Same as ANSC 5152)

POSC5233 Value Added Muscle Foods (Even years, Sp) An intense study of muscle structure and how it relates to the development of further processed meat products. Muscle ultrastructure, protein functionality, product development, and quality analysis will be covered. In class hands on activities will also be included to allow students to obtain experience of producing processed meat products.

POSC5313 Domestic Animal Bacteriology (Fa) A study of bacteria pathogenic for domestic animals. Lecture 3 hours per week.

POSC5343 Advanced Immunology (Sp) Aspects of innate, cell-mediated, and humoral immunity in mammalian and avian species. Molecular mechanisms underlying the function of the immune system are emphasized. A course in Basic Immunology prior to enrollment in Advanced Immunology is recommended but not required. Lecture 3 hours per week. (Same as BIOL 5343)

POSC5352L Immunology in the Laboratory (Sp) Laboratory course on immune-diagnostic laboratory techniques and uses of antibodies as a research tool. Included are cell isolation and characterization procedures, immunochemistry, flow cytometry, ELISA and cell culture assay systems. Laboratory 6 hours per week. Prerequisite: POSC 5343 or BIOL 5343 or BIOL 4713.

POSC542 Advanced Poultry Diseases (Odd years, Sp) An in-depth coverage of the most important diseases of poultry with a focus on understanding mechanisms of pathogenesis, diagnostic techniques and principles of prevention. Lecture/discussion 2 hours per week. Prerequisite: POSC 3223.

POSC543L Advanced Analytical Methods in Animal Sciences Laboratory (Fa) Introduction into theory and application of current advanced analytical techniques used in animal research. Two 3-hour laboratory periods per week. (Same as ANSC 5743L)

POSC573 Molecular Analysis of Foodborne Pathogens (Fa) Course topics will include molecular detection and identification of foodborne pathogens, the molecular response of foodborne pathogens to their environments, functional genomic approaches, and analysis of complex microbial communities. Lecture/discussion 3 hours per week.

POSC5901 Graduate Seminar (Sp, Fa) Critical review of the current scientific literature pertaining to the field of poultry science. Oral reports. Recitation 1 hour per week. Prerequisite: Senior standing.

POSC5923 Brain and Behavior (Fa) Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory and autonomic nervous systems, neuroendocrinology, and control by the brain of critical functions and behavior. Lecture 3 hours per week; Neuroscience Journal Club 1 hour per week (for first 8 weeks of
PSYC2003 General Psychology (Sp, Su, Fa) An introduction to the field of Psychology, including the investigation of the biological bases of behavior; learning and cognitive processes; developmental and social psychology; and personality, psychopathology, and the treatment of psychological disorders. Students will be expected to complete a research requirement.

PSYC2013 Social Psychology (Sp, Fa) Theories and representative research in social psychology, emphasizing the influence of the social world on human behavior. Introduction to the problems, theories, and experiments of social psychology. Prerequisite: PSYC 2003.

PSYC206V Directed Readings (Sp, Su, Fa) (1-4) For undergraduate majors in psychology. Prerequisite: Six hours of psychology; Instructor’s permission. May be repeated for up to 6 hours of degree credit.

PSYC207V Laboratory Experience (Sp, Su, Fa) (1-4) Laboratory experience in psychology obtained by working as part of a faculty member’s research team. Prerequisite: PSYC 2003 and Instructor’s permission. May be repeated for up to 6 hours of degree credit.

PSYC208V Introduction to Research Methods (Sp, Fa) (1-4) An introduction to the descriptive and inferential statistics commonly used by psychologists. A grade of C or better in PSYC 2013 is required as a prerequisite for PSYC 3073. Corequisite: Drill component. Prerequisite: PSYC 2003 and MATH 2043 or MATH 2053 or MATH 2554, with a grade of C or better, and a Psychology major.

PSYC209V Honors Colloquium (Irregular) Treats a special topic or issue, offered as part of the honors program. May be repeated when the content is changed. Prerequisite: honors candidacy (not restricted to candidacy in psychology).

PSYC2103H Honors General Psychology (Sp, Fa) An introduction to the field of Psychology, including the investigation of the biological bases of behavior; learning and cognitive processes; developmental and social psychology; and personality, psychopathology, and the treatment of psychological disorders. Students will be expected to complete a research requirement.

PSYC2103H Honors General Psychology (Sp, Fa) An introduction to the field of Psychology, including the investigation of the biological bases of behavior; learning and cognitive processes; developmental and social psychology; and personality, psychopathology, and the treatment of psychological disorders. Students will be expected to complete a research requirement.

PSYC207V Laboratory Experience (Sp, Su, Fa) (1-4) Laboratory experience in psychology obtained by working as part of a faculty member’s research team. Prerequisite: PSYC 2003 and Instructor’s permission. May be repeated for up to 6 hours of degree credit.

PSYC206V Directed Readings (Sp, Su, Fa) (1-4) For undergraduate majors in psychology. Prerequisite: Six hours of psychology; Instructor’s permission. May be repeated for up to 6 hours of degree credit.

PSYC207V Laboratory Experience (Sp, Su, Fa) (1-4) Laboratory experience in psychology obtained by working as part of a faculty member’s research team. Prerequisite: PSYC 2003 and Instructor’s permission. May be repeated for up to 6 hours of degree credit.

PSYC3013 Social Psychology (Sp, Fa) Theories and representative research in social psychology, emphasizing the influence of the social world on human behavior. Introduction to the problems, theories, and experiments of social psychology. Prerequisite: PSYC 2003.

PSYC3023 Abnormal Psychology (Sp, Fa) Theories and representative research about the causes and treatment of the major forms of abnormal behavior. Prerequisite: PSYC 2003.

PSYC3073 Research Methods (Sp, Fa) Training in execution and interpretation of experiments using the classical experimental designs. Limited enrollment. Prerequisite: PSYC 2013 and (MATH 2043, or MATH 2053, or MATH 2554) with a grade of “C” or better and a psychology major.

PSYC3093 Developmental Psychology (Sp, Fa) Theories and representative research in the psychological factors influencing development, including both hereditary and environmental influences, from conception through adolescence. Prerequisite: PSYC 2003.

PSYC3103 Cognitive Psychology (Sp) Introduction to theories and research in cognition including memory, language, and problem-solving. Prerequisite: PSYC 2003.

PSYC328V Advanced Research (Sp, Fa) (1-3) A lecture/laboratory course covering research in a specialized area of psychology. Provides experience with design, conduct, analysis, and presentation of research projects related to class topics. Successful completion of the class, including a formal paper in APA style, with a grade of C or better will fulfill the senior writing requirement. Prerequisite: PSYC 3073 with a grade of C or better.

PSYC399VH Honors Course (Sp, Su, Fa) (1-6) Prerequisite: Junior standing and instructor’s permission. May be repeated for up to 12 hours of degree credit.

PSYC4033 Educational Psychology (Irregular) Psychological theories and concepts applied to the educational process. Investigates the learner
and instructional variables in a wide range of educational settings. Prerequisite: Six hours of psychology, not including PSYC 2014.

PSYC4053 Psychological Tests (Irregular) Nature and theory of individual and group tests of intelligence, personality, interests, and attitudes. Prerequisite: Nine hours of psychology, including a C or better in PSYC 2013.

PSYC4063 Psychology of Personality (Irregular) Theories and representative research concerning the development and nature of the normal personality. Prerequisite: Six hours of psychology, not including PSYC 2014.

PSYC4073 Psychology of Learning (Sp) Theories and representative research on basic principles of learning and memory in both animals and humans. Prerequisite: Six hours of psychology, not including PSYC 2013.

PSYC409V Psychology Seminar (Irregular) (1-6) Provides intensive coverage of specialized psychological topics. Prerequisite: Six hours of psychology, not including PSYC 2013. May be repeated for up to 18 hours of degree credit.

PSYC4123 Perception (Irregular) Theories and representative research in the areas of sensation and perception. Prerequisite: Six hours of psychology, not including PSYC 2013.

PSYC4143 History and Systems of Psychology (Irregular) Examination of the concepts, methods, and systems which have contributed to the development of modern psychology. Prerequisite: Fifteen hours of psychology and senior standing.

PSYC4183 Behavioral Neuroscience (Fa) Examination of the biological basis of behavior. Surveys the anatomy, physiology, and pharmacology of the mammalian brain and examines brain mechanisms underlying a wide range of behaviors and cognitive processes. Prerequisite: Six hours of psychology, not including PSYC 2013.

PSYC4193 Comparative Psychology (Sp) Analysis of animal behavior from an evolutionary perspective, with emphasis on the role of the environment and interactions with other animals in shaping the evolution of behavior within a species, and the evolution of differences in behavior between species. Prerequisite: Six hours of psychology, not including PSYC 2013.

PSYC4283 Advanced Seminar (Sp, Fa) A seminar/discussion class covering research in specialized areas of psychology. Students will read original sources and present their ideas and conclusions several formats. Successful completion of the class, including a formal paper in APA style, with a grade of C or better will fulfill the senior writing requirement. Prerequisite: Eighteen hours of psychology including a grade of at least a C in PSYC 3073; senior standing. May be repeated for up to 6 hours of degree credit.

PSYC5013 Advanced Developmental Psychology (Sp) Critical examination of the research relevant to the psychological factors influencing the growth processes of the individual from birth to maturity. Prerequisite: PSYC 4073.

PSYC5023 Neuropsychological Assessment (Irregular) Introduction to the principles, techniques, and tools of assessment in clinical neuropsychology. Includes training in the interpretation, integration, and reporting of results. Prerequisite: PSYC 5043; enrollment in the Psychology graduate program.

PSYC5033 Psychopathology (Fa) Psychological and somatic factors contributing to pathological behavior. Interrelations of these factors will be analyzed in terms of how they lead to differential abnormal states. Prerequisite: PSYC 3023; enrollment in the Graduate Program in Psychology, or consent.

PSYC5043 Assessment of Intellectual and Cognitive Abilities (Fa) Training in the theory, administration and interpretation of individual tests of intelligence and mental ability. Prerequisite: PSYC 4053; Enrollment in the Psychology Graduate Program.

PSYC5053 Advanced Personality Assessment and Clinical Diagnosis (Fa) Guidelines for using standardized instruments and structured interviews in the diagnosis and clinical assessment of major psychological disorders. Includes training in the interpretation, integration, and reporting of results. Prerequisite: PSYC 5043 and PSYC 5163.

PSYC5063 Advanced Social Psychology (Sp) Theory, methodology, and contemporary research in the major areas of social psychology. Topics include attitude theory and measurement, group processes, social and cultural factors.

PSYC5073 Introduction to Clinical Practice: Core Skills and Ethical Guidelines (Sp, Fa) An introduction to clinical practice focusing on a) interview methods and techniques and b) ethical principles and guidelines. Prerequisite: Enrollment in the Psychology graduate program.

PSYC5080 Observational Practicum (Sp, Su, Fa) Observation of senior therapists in the provision of psychodiagnostic and psychotherapeutic techniques. Pre- or Corequisite: Psychology Ph.D. students only. May be repeated for up to 0 hours of degree credit.

PSYC5113 Theories of Learning (Fa) Major concepts in each of the important theories of learning. Prerequisite: PSYC 4073.

PSYC5123 Cognitive Psychology (Even years, Sp) Contemporary theories and research on human information processing including topics such as memory, language, thinking, and problem solving.

PSYC5133 Inferential Statistics for Psychology (Fa) Inferential statistics, including representative parametric tests of significance. Special emphasis on analysis of variance, covariance, and component variance estimators as applied to psychological research. Prerequisite: PSYC 2013 or STAT 2013.

PSYC5143 Advanced Descriptive Statistics for Psychology (Sp) Special correlation techniques followed by a survey of representative nonparametric tests of significance. Major emphasis on advanced analysis of variance theory and designs. Prerequisite: PSYC 5133.

PSYC5153 Advanced History and Systems of Psychology (Fa) Advanced examination of the concepts, methods, and systems which have contributed to the development of modern psychology.

PSYC5163 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.

PSYC5173 Personality: Theory & Disorder (Sp) An introduction to empirically based theories of personality and personality disorders with an emphasis on clinical application and intervention. Prerequisite: Enrollment in the Psychology graduate program or consent.
Emphasis will be on generalization of a given approach of selected mathematical approaches to theorizing and research in PSYC6343 Seminar in Quantitative Methods (Irregular) Discussion development of child psychology, to later development (psychology of adulthood and topics selected for discussion could range from early development. Emphasis will be on a review of current theory and empirical research. topics selected for discussion will be in areas of intrapersonal processes, interpersonal processes, group processes or any of various areas of personality. PSYC6413 Seminar in Physiological Psychology (Odd years, Sp) Discussion of selected topics in physiological psychology. Emphasis will be on a review of current theory and empirical research. Each offering of the seminar will examine the biological basis of a specific aspect of behavior, utilizing both animal and human data.

PSYC698V Field Work (Sp, Su, Fa) (1-3) Provides academic credit for field work in multidisciplinary setting, involving supervised experiences in assessment and psychotherapy. May be repeated for credit.

PSYC699V Clinical Psychology Internship (Sp, Su, Fa) (1-3) Supervised experience in a multidisciplinary setting of assessment and psychotherapy. May be repeated for credit.

PSYC700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

Plant Sciences (PTSC)

PTSC6101 Colloquium in Plant Sciences (Sp) Advanced discussion of topics in plant science on a participatory basis. Topics in plant pathology, horticulture and forestry will be treated. Prerequisite: Graduate standing. May be repeated for up to 2 hours of degree credit.

PTSC6203 Laboratory Instrumentation in Plant Science (Irregular) Principles, capabilities, and operation of laboratory instrumentation utilized in plant science research. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

PTSC700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Graduate standing.

Public Policy (PUBP)

PUBP6001 Pro-Seminar (Fa) An introduction to the field of public policy and to the program. The seminar will address topics such as the meaning of public policy, policy research, the dissertation process, and particular issues of public policy concern. Prerequisite: Admission to program.

PUBP6023 Law and Public Policy (Fa) This course focuses on the legal aspects of public policy, with emphasis on the regulatory process and its legal constraints. Also considered are the process of administrative decision making, judicial review, legislative oversight, and public access to government information. Pre- or corequisite: PUBP 6012.

PUBP604V Special Topics in Public Policy (Irregular) (1-6) Designed to cover specialized topics not usually presented in depth in regular courses. May be repeated for up to 6 hours of degree credit.

PUBP6103 Policy Leadership Seminar (Irregular) This interdisciplinary seminar will explore the relationship between policy, public administration, and organizations in the community. Stakeholder groups will be
considered as part of the newer approaches to practice-driven scholarship. The class will examine innovative approaches to decision making, strategic management and policy leadership in complex interorganizational and interagency settings.

PUBP6113 Agenda Setting and Policy Formulation (Irregular) This course is a seminar on agenda and policy formation focusing on the classic theoretical and empirical literature. The course is designed to introduce graduate students to a variety of theories typologies, concepts, and ideas relating to the study of public policy.

PUBP612V Research Problems in Policy (Sp, Su, Fa) (1-6) May be repeated for up to 6 hours of degree credit.

PUBP6134 Capstone Seminar in Public Policy (Sp, Fa) This course is intended to integrate various policy interests in a specific community based project.

PUBP700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: candidacy. May be repeated for up to 18 hours of degree credit.

Recreation and Sport Management (RESM)

RESM1003 Professional Foundations of Leisure (Sp, Fa) An analysis of the historical and philosophical development of recreation, sport and leisure. Theories of play, recreation, sport and leisure are studied. Economic, political, technical, and social forces are examined as these influence recreation, sport, parks, and leisure services is examined in context with diverse service delivery systems. Prerequisite: RESM major or RESM minor or by instructor consent.

RESM1023 Recreation and Natural Resources (Sp, Su, Fa) An examination of the use and management of natural resources for outdoor recreation with consideration of multiple use, environmental ethics, risk management, and other current considerations. Several field visits will be required as part of the class, including a weekend outing. Prerequisite: RESM major or RESM minor or by instructor consent.

RESM201V Recreation and Sport Practicum (Sp, Su, Fa) (1-3) Students are assigned to assist in leisure-oriented programs for exposure to organizational structure, services, and programming of cooperating recreational and sport agencies. Students may take 1-3 hours per semester; each credit hour is a 45-hour experience. Students must complete 3 different experiences before internship. Prerequisite: RESM 1003 or instructor consent. May be repeated for credit.

RESM2063 The Commercial Recreation, Sport and Tourism Enterprise (Fa) Examination of the commercial recreation, sport and tourism industries. The operational requirement of a wide range of recreation businesses will be studied. Case study and field investigation methods will be emphasized. Prerequisite: RESM 1003 or instructor consent.

RESM2093 Inclusive and Special Recreation and Sport (Sp) An introduction to the basic concepts of inclusive and special recreation and sport services integrated with knowledge and skill sets required to provide accessible recreation and leisure programming for people with disabilities. Prerequisite: RESM 1003 or instructor consent.

RESM2813 Recreation and Sport Leadership (Sp, Fa) Development of knowledge related to leadership theory, group dynamics, and face-to-face leadership techniques. Students gain an understanding of leadership theories as they are applied in a field setting. Pre or Corequisite: COMM 1313.

RESM2853 Leisure and Society (Sp, Su, Fa) This course is an examination of leisure and its effect on society. Course content includes identification and exploration of motivating factors related to various traditional and contemporary leisure expressions as it occurs across diverse populations.

RESM2853H Honors Leisure and Society (Sp, Fa) This course is an examination of leisure and its effect on society. Course content includes identification and exploration of motivating factors related to various traditional and contemporary leisure expressions as it occurs across diverse populations.

RESM3023 Sport Management Fundamentals (Fa) This course is designed to present an overview of the fundamentals of sport management in professional and intercollegiate sport, as well as issues facing sport organizations and how management techniques can be applied to solve sport business problems. A description of career opportunities in sport will be presented with special interest in helping the student design a course of study that best meets his/her goals. Prerequisite: RESM 1003 or instructor consent.

RESM3833 Program Planning in Recreation and Sport (Sp) Development of the fundamentals of program planning using modern techniques of identifying and analyzing program activity areas and community needs. Includes program development and application with a variety of population groups and representative leisure service areas. Prerequisite: RESM 1003 or instructor consent.

RESM3843 Recreation and Sport Facilities (Sp) Planning concepts, design principles, and maintenance techniques are emphasized. Also, technical design concepts and firsthand experiences in maintenance of facilities are included. Prerequisite: RESM 1003 or instructor consent.

RESM3873 Sport and Recreation Risk Management (Fa) In-depth look at risk management and related legal issues affecting recreation and sport administration. Pre- or Corequisite: RESM major or RESM minor or by instructor consent. Prerequisite: Junior standing, and RESM 1003 or instructor consent.

RESM4003 Innovative Practices in Recreation and Sport (Sp) Management techniques for recreation and sport programs and facilities. Prerequisite: Senior standing and RESM 1003, or instructor consent.

RESM4013 Contemporary Issues in Leisure and Sport (Sp) Discussion of selected topics and review of current literature in the recreation and sport field. Analysis of current trends and professional issues are emphasized. Certification at the instructor level or higher in at least 2 areas of expertise must be completed before a grade is assigned in this course. Prerequisite: Senior standing and RESM 1003, or instructor consent.

RESM4023 Outdoor Adventure Leadership (Su) This course considers the values and scope of outdoor recreation programs, leadership and skill development with practical experience in a wilderness environment. The course will include a canoe trip through the wilderness, and skill training in such areas as orienteering and rock climbing; and leadership development in interpersonal and processing skills. The graduate portion of the class is geared toward leading and trip planning for taking college age and older students into remote areas.

RESM405V Independent Study in Recreation and Sport (Sp, Su, Fa) (1-3) Provides student an opportunity to pursue special study of research problems. May be repeated for credit.
RESM4083 Research and Evaluation in Recreation and Sport Management (Sp) An introduction to the applied methods and techniques of research and evaluation in recreation and sport services. General consideration given to research applications such as needs assessment, program evaluation, and marketing studies. Emphasis placed on the logic underlying the research process. Prerequisite: Senior standing and RESM 1003, or instructor consent.

RESM4083H Honors Research and Evaluation in Recreation and Sport Management (Sp) An introduction to the applied methods and techniques of research and evaluation in recreation and sport services. General consideration given to research applications such as needs assessment, program evaluation, and marketing studies. Emphasis placed on the logic underlying the research process.

RESM440V Internship (Sp, Su, Fa) (1-12) This experiential based course requires 40 hours per week of work in an approved agency for a full semester. It is recommended that students register for the summer session after completion of their course work. Prerequisite: RESM 3873.

RESM4411 Pre-Internship Preparation (Fa) Enables student preparation for internship experiences and eventual employment. Course will assist students in preparation of resumes; provide opportunities for interview practice; the development of job search and application skills, as well as other requisites for entering the professional workforce. Prerequisite: RESM 1003 and Senior standing.

RESM480V Workshop (Irregular) (1-3) May be repeated for up to 3 hours of degree credit.

RESM5003 Graduate Prerequisites (Fa) Gives students entering a recreation and sport degree program with no course background in recreation and sport the necessary understanding of the recreation and sport field. This course will not count toward a graduate degree in recreation and sport.

RESM5273 The Intramural Sports Program (Odd Years, Fa) Historical development, aim and objectives, organization, administration, units of competition, program of activities, schedule making, scoring plans, rules and regulations, awards, and special administrative problems.

RESM5293 Sport Management (Fa) Deals primarily with high school athletics and considers historical development, objectives, controlling agencies, eligibility and contest regulations, local organization and administration, staff program, finances, inventories, facilities and equipment, safety, legal aspects, awards, publicity, and public relations.

RESM5463 Sports Facilities Management (Su) Considers basic elements and procedures in the planning, design, construction, operation, and maintenance of sport facilities; management considerations in conducting various types of events.

RESM560V Workshop (Irregular) (1-3) May be repeated for up to 3 hours of degree credit.

RESM574V Internship (Irregular) (1-3)

RESM5813 Principles of Recreation and Sport (Su) Considers history, philosophy, current trends, basic issues, and fundamental principles of recreation and sport. Using these principles as basic criteria, students make critical appraisals of current practices in organization and administration of recreation and sport programs, program content, leadership methods, and evaluative procedures.

RESM5833 Recreation and Sport for Special Populations (Irregular) Skills, knowledge, and concepts within recreation and sport which are appropriate to planning and implementing recreation and sport programs and services for the handicapped.

RESM5843 Tourism (Fa) Explores major concepts of tourism to discover what makes tourism work, how tourism is organized, and its social and economic effects.

RESM5853 Strategic Organizational Design in Recreation and Sport Management (Sp) Nature, background, significance, and trends in recreation in the school and community. Attention is given to departmental organization, administrative practices, program financing, personnel, safety, and legal aspects.

RESM5873 Leadership in Recreation and Sport Management Services (Su) Considers research, theory, and practical applications of leadership principles utilized in the provision of recreation and sport management services. Focus is on motivation, attitude, communication, group dynamics, and problem solving.

RESM5883 Recreation and Sport Services Promotion (Su) Examines specific strategies for promoting recreation and sport programs in the local community.

RESM5893 Public and Private Finance in Recreation and Sport Management (Fa) Develops an understanding of both public and private finance management for students in public and private management positions. Provides an understanding of the budgeting processes and techniques used in obtaining and controlling funds, including private sector finance problems in areas of credit, pricing, indexing, and debt management.

RESM600V Master's Thesis (Sp, Su, Fa) (1-18)

RESM605V Independent Study (Sp, Su, Fa) (1-3) May be repeated for up to 3 hours of degree credit.

RESM612V Directed Reading in Recreation and Sport (Sp, Su, Fa) (1-3) Critical analysis of literature in the area of recreation and sport.

RESM6133 Issues in RESM (Irregular) A review of the significant social, demographic, behavioral, developmental, and technological issues that influence health, kinesiology, and recreation and sport management programs. Pre- or Corequisite: for doctoral level students only.

RESM6533 Legal and Political Aspects (Sp) An overview of major legislation affecting recreation and sport management professions; how to operate within these laws; and methods for influencing new legislation. Also discusses political aspects of professions both inside and outside government agencies.

RESM674V Internship (Sp, Su, Fa) (1-3) Students will learn diverse teaching techniques and implement them in an ongoing undergraduate recreation and sport management class serving as the teaching laboratory. The "what" "when" and "how" relative to integrating various teaching techniques with specific content areas in the class will be explored by both the student and the instructor.

Rehabilitation Education (RHAB)

RHAB534V Supervised Rehabilitation Counseling (Sp, Su, Fa) (1-3) Gives the student practice in counseling under supervision with rehabilitation clients in selected settings and agencies.
RHAB5363 Employer Relations and Placement Practicum (Sp, Su, Fa) Students address the placement needs of rehabilitation agencies and their clients by implementing the RehabMark approach to employer development. Prerequisite: RHAB 5493.

RHAB5373 Multicultural/Gender Issues in Rehabilitation (Su) This course examines multicultural and gender issues of importance to rehabilitation practice and research, including study of women and men with disabilities within different minority cultures. The course uses a power analysis and a minority model of disability as a basis for understanding the relationship between disability, gender, race and ethnicity.

RHAB5423 Vocational Rehabilitation Foundations (Fa) Survey of the philosophy of vocational rehabilitation, including history and legislation.

RHAB5433 Medical Aspects of Disability (Sp) Orientation to medical and medically related aspects of various disabling conditions with emphasis on the severely disabled.

RHAB5443 Rehabilitation Case Management (Sp) Counseling process in the rehabilitation setting. Focusing upon effective counseling strategies, representative cases, and effective case management methods.

RHAB5453 Psychological Aspects of Disability (Sp) Intensive study of the psychological aspects of adjustment to atypical physique and prolonged handicapping condition.

RHAB5463 Independent Living and Community Adjustment (Fa) Study of the problems and practices involved in developing and maintaining independent living rehabilitation programs for people who are disabled physically, developmentally, and mentally.

RHAB5473 Placement of Persons with Disabilities (Su) Focuses on placement theory and practice as they apply to persons who experience disabilities. Special attention is given to RehabMark approach.

RHAB5483 Rehabilitation Counseling Research (Fa) An in-depth examination of rehabilitation research methodology and issues to prepare students to critically evaluate and use rehabilitation counseling research in their professional practice.

RHAB5493 Vocational Evaluation and Adjustment (Sp) An in-depth examination of theories and techniques related to evaluation of vocational potential and work adjustment of people with disabilities.

RHAB574V Internship (Sp, Su, Fa) (1-9)

RHAB599V Seminar (Sp, Su, Fa) (1-18) May be repeated for up to 18 hours of degree credit.

RHAB605V Independent Study (Sp, Su, Fa) (1-18)

RHAB6203 Disability Policy in the U.S. (Fa) An analysis of public policy approaches to disability in the U.S. Examines the political and philosophical origins of disability policy; reviews major disability legislation and its effects on policy stakeholders; describes recent initiatives; and analyzes evolution of disability policy within context of changing societal, economic, and political conditions.

RHAB6213 Advanced Psychosocial Aspects of Disability (Odd years, Fa) A theoretical and applied study of techniques that enable people to cope with 2 major life events: disability and unemployment.

RHAB6233 Employment Practices and Interventions (Sp) An intensive study of the employment experiences of workers with disabilities with emphasis on disincentives and barriers to employment and interventions to enable people with disabilities to participate in employment. Prerequisite: RHAB 5493 or equivalent.

RHAB6243 Advanced Rehabilitation Research (Sp) An advanced doctoral level course to facilitate the application of scientific values, research skills, and behavior to the generation of rehabilitation knowledge and problem solving.

RHAB625V Teaching Internship in Rehabilitation (Sp, Su, Fa) (1-18) Graduate teaching experience in the rehabilitation counseling curriculum. Under the supervision of a faculty member, will participate in the development of syllabi, course materials and examinations. Will team teach graduate rehabilitation courses with the faculty member. May be repeated for up to 18 hours of degree credit.

RHAB6263 Clinical Supervision of Practicum Students (Su) The study and practice of supervising master’s rehabilitation counseling students in a clinical practicum setting. Prerequisite: Doctoral standing.

RHAB675V Internship (Sp, Su, Fa) (1-18) Advanced supervised practice in a rehabilitation setting.

RHAB699V Seminar (Sp, Su, Fa) (1-18) Discussion of pertinent topics and issues in the rehabilitation field. Prerequisite: Advanced graduate standing. May be repeated for up to 18 hours of degree credit.

RHAB700V Doctoral Dissertation (Sp, Su, Fa) (1-18) Prerequisite: Candidacy.

RHAB7100V Doctoral Internship (Sp, Su, Fa) (1-18) Prerequisite: RHAB 5493 or equivalent.

RSOC1013 Introduction to Sociology (Irregular) Introduction to the society as a social system. Observing and analyzing social behavior and how they are interpreted. (Same as RHAB 5303)

RSOC2603 Rural Sociology (Sp) Meaning of sociology and sociological concepts with reference to rural society; interdependence of rural and urban population in ecological areas; institutions; social change and adjustment.

RSOC4603 Environmental Sociology (Sp) The course provides a social perspective on environmental issues. It examines the linkage between society, ecological systems and the physical environment. It provides conceptual framework(s) for analyzing environmental issues, considers the role of humans in environmental issues, and enhances understanding the complexity of the relationship between societal organization and environmental change. (Same as SOCI 4603)

RSOC500V Special Problems (Sp, Su, Fa) (1-6) Gives experience in executing research and in analyzing a sociological problem of agriculture. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

RSOC5603 Community and Natural Resources (Irregular) Introduction to the breadth of considerations involved in community resource management, including theoretical frameworks, methodological investigations and applied practices to enhance the ability of community development professionals to work with their communities to plan, develop and monitor the conservation and development of natural resources with multiple functions.

RSOC600V Master’s Thesis (Sp, Su, Fa) (1-6) Prerequisite: Graduate standing.

RUSS700V Doctoral Dissertation (Sp, Su, Fa) (1-18)

RUSS1003 Elementary Russian I (Fa)
RUSS1013 Elementary Russian II (Sp) Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

RUSS2003 Intermediate Russian I (Fa) Intermediate courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

RUSS2013 Intermediate Russian II (Sp) Continued development of basic, speaking comprehension and writing skills and intensive development of reading skills.

RUSS3013 Introduction to Literature (Irregular) Development of reading skills and introduction to literary analysis. Prerequisite: RUSS 2013 or equivalent.

RUSS3023 Listening Comprehension (Irregular) Provides intensive practice in listening to recordings taken from such sources as television broadcasts, lectures, and readings of literature. This is supplemented by conversation and by comprehension tests. Prerequisite: RUSS 2003.

RUSS4123 Survey of Russian Literature from Its Beginning to the 1917 Revolution (Irregular) The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English. (Same as WLIT 4123)

RUSS4133 Survey of Russian Literature Since the 1917 Revolution (Irregular) The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English with readings in English. (Same as WLIT 4133)

RUSS475V Special Investigations (Sp, Fa) (1-6) May be repeated for credit.

Social Work (SCWK)

SCWK2133 Introduction to Social Work (Sp, Su, Fa) Introduction to social work as a profession and to social welfare institutions from the perspective of the generalist, entry level social worker. Emphasis on empowerment function of social work.

SCWK3163 On Death and Dying (Sp, Su, Fa) Reviews the theory and humanistic importance of the concepts of death and dying in society. An experimental option and interdisciplinary faculty presenters will be part of the format. (Same as HUMN 3163)

SCWK3193 Human Diversity and Social Work (Sp, Su, Fa) An introduction to information basic concepts related to human diversity and social work. Provides content on differences and similarities in the experiences, needs, and beliefs of people distinguished by race, ethnicity, culture, class, gender, sexual orientation, religion, physical or mental ability, age or national origin. Prerequisite: Social Work major or minor.


SCWK3633 Child Welfare: 21st Century Perspectives (Sp, Su, Fa) Study of the needs of deprived children with some attention to methods and standards of care. Cultural competence and family-centered practice are emphasized.

SCWK399VH Honors Course (Irregular) (1-18) Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

SCWK405V Special Topics in Social Work (Irregular) (1-6) Comprehensive study of various topics of importance in contemporary social welfare and social work practice. Prerequisite: Junior standing. May be repeated for credit.

SCWK4073 Social Work Research and Technology I (Sp, Fa) An overview of forms and sources of social work research including existing social data, techniques for collecting original social data, and techniques of organization, interpretation, and presentation of data. Students will also become proficient in the use of current technology for social work research and practice. Pre- or Corequisite: One of the following: STAT 2303, SOCI 3303/3301L, PSYC 2013, or EDFD 2403. Prerequisite: SCWK 4093 and SCWK 4153.

SCWK4093 Human Behavior and the Social Environment I (Sp, Fa) (Formerly SCWK 3093) Provides a conceptual framework for knowledge of human behavior and the social environment with a focus on individuals. Social systems, life-course, assets, and resiliency-based approaches are presented. Special attention is given to the impact of discrimination and oppression on the ability to reach or maintain optimal health and well-being. Prerequisite: COMM 1313, PSYC 2003, SOCI 2013, SCWK 2133, and SCWK 3193 and (BIOL 1543 and BIOL 1541L, or ANTH 1013 and ANTH 1011L).

SCWK4103 Human Behavior and the Social Environment II (Sp, Fa) (Formerly SCWK 3103) This course applies the basic framework for creating and organizing knowledge of human behavior and the social environment acquired in HBSE I to the understanding of family, group, organizational, community, and global systems. Attention is given to discrimination, oppression, the impact of technology, and poverty at each system level. Prerequisite: SCWK 4093 and SCWK 4153.

SCWK4143 Addiction and the Family (Sp) Introduction to the biophysical basis of chemical and behavior compulsions with special focus on family impacts. Childhood development within addictive families is also examined. Social work intervention with substance abusing families is highlighted.

SCWK4153 Social Welfare Policy (Sp, Fa) (Formerly SCWK 3153) Describes and analyzes the policies and services rendered by local, state, regional, national, and international agencies as well as the policy implications for social work practice. Students prepare to advocate social policy changes designed to improve social conditions, promote social and economic justice, and to empower at-risk populations. Prerequisite: COMM 1313, PLSC 2003, SCWK 2133, and SCWK 3193.

SCWK4183 Social Work With Elders (Sp, Fa) Survey of theories of gerontology, service programs and unmet needs of the aging citizen.

SCWK4233 Seminar: Children and Family Services (Fa) An examination of selected current issues in the field of children and family services through discussion, individual study, and interaction with professionals in the field.

SCWK4333 Social Work Practice I (Sp, Fa) This is the first in the sequence of practice courses introducing students to the generalist approach to micro social work. This course focuses on developing a solid foundation for practice with individuals, including learning basic communication and helping skills, values, principles, and the connection of theory to practice. Prerequisite: SCWK 4103. Prerequisite: SCWK 4093 and SCWK 4153.

SCWK4343 Social Work Practice II (Sp, Fa) This is the second course in the social work practice sequence, emphasizing theories, models, and
SCWK4412 Field Seminar I (Sp, Su, Fa) An integrative seminar to assist students in comparing their practice experiences, integrating knowledge acquired in the classroom, and expanding knowledge beyond the scope of the practicum setting. Corequisite: SCWK 4434 and social work majors only.

SCWK4422 Field Seminar II (Sp, Su, Fa) An integrative seminar to assist students in comparing their practice experiences, integrating knowledge acquired in the classroom, and expanding knowledge beyond the scope of the practicum setting. Corequisite: SCWK 4444. Prerequisite: SCWK majors only.

SCWK4434 Social Work Internship I (Sp, Su, Fa) Arranged in connection with social service agencies. Credit is based on completion of all course objectives, including a minimum of 225 hours of field work under the supervision of a licensed social worker. Corequisite: SCWK 4444. Prerequisite: Social work major, SCWK 4073, SCWK 4103, and SCWK 4333.

SCWK4444 Social Work Internship II (Sp, Su, Fa) Arranged in connection with social service agencies. Credit is based on completion of all course objectives, including a minimum of 225 hours of field work under the supervision of a licensed social worker. Corequisite: SCWK 4422. Prerequisite: SCWK majors only, SCWK 4343, SCWK 4773 and SCWK 4434.

SCWK4733 Social Work Practice III (Sp, Fa) Students acquire and practice the skills, knowledge, and values necessary for culturally competent generalist social work practice with organizations and communities. Special attention is given to the implications of discrimination and oppression for attaining social and economic justice. Prerequisite or Corequisite: SCWK 4343. Prerequisite: SCWK 4103 and SCWK 4333.

SCWK496V Independent Study (Sp, Su, Fa) (1-6) Independent Study designed to meet the particular needs of individual students. May be repeated for up to 6 hours of degree credit.

SCWK5003 Foundations of Culturally Competent Social Work Practice (Fa) The purpose of this course is the acquisition and demonstration of beginning graduate-level social work values and ethics, knowledge, and skills necessary for cultural competence in work with individuals, families, groups, organizations, communities, and global contexts. A multi-systems life-course conceptual framework is used. Prerequisite: Admission to the two-year or part-time MSW program.

SCWK5013 Bridge Course: Evidenced Based Social Work (Su) This course prepares MSW students to transition from the foundation course to the advanced concentration courses. Students will become familiar with the mission and conceptual framework underlying the advanced concentration and develop beginning knowledge of traditional and alternative approaches to client system assessment. Prerequisite: Admission into the advanced standing MSW program or completion of foundation courses.

SCWK5073 Social Work Research and Technology II (Fa) This course includes content necessary for thesis proposal development. A significant component for this course focuses on using research tools to begin the thesis. The course provides an orientation to participatory action research, and to the scientific and systematic evaluation of service delivery and personal professional practice. Corequisite: SCWK 6000L and SCWK 6003. Prerequisite: Completion of year one for two-year students or summer semester for advanced standing students.

SCWK5143 Global Social and Economic Justice and Oppression (Fa) The role and responsibilities of the social work profession are examined in an international comparative context. Particular emphasis is given to social workers’ responsibilities to advance global social and economic justice and reduce human oppression through community, social, economic, and organizational development strategies. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5153 Children, Youth, and Family (Irregular) This course focuses on the development, revision, and impact of policy and practice in children, youth, and family services. Current issues in policy and practice will be examined. Students will interact with community agencies and utilize class assignments to advocate improvements in current policy and practice. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5163 Social Work Management, Administration and Supervision (Sp, Su) This course develops advanced skills in management, administration, and supervision in social work organizations. Emphasis is placed on developing leadership skills in ethics, budgeting, finance, resource development, information management, evaluation, staff hiring, supervision and development, and the use of technology in organizational leadership, development, and maintenance. Prerequisite: Graduate standing and SCWK 5003 or SCWK 5013.

SCWK5173 Advanced Practice with Families and Couples (Fa) The purpose of this course is to provide advanced understanding of the knowledge, skills and values needed to assess and intervene effectively with traditional and non-traditional families and couples. The course will examine social systems and life-course strengths approaches to understand how families and couples function. Students will design interventions. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5183 Advanced Practice with Individuals (Sp) This course develops advanced skills in social work practice on a micro level. Students learn to analyze and compare practice models. They gain skills in selecting a practice model and integrating multiple models based on client needs. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5193 Advanced Practice and Policy in Aging (Fa) This course focuses on social work practice with, and policies for, older persons. Current, past, and future policies and practices for older persons across systems and the life course are explored. Emphasis is placed on the influences of personal, social, economic, and cultural diversity on the well-being of older persons. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5213 Advanced Practice and Policy in Mental Health (Sp) This advanced course prepares students to identify mental disorders, plan intervention strategies with clients from a strengths perspective, and understand mental health programs and policies through which services are delivered. Differential diagnosis and the impact of socioeconomic status, gender, race, and sexual orientation on diagnosis and treatment decisions are addressed. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5253 Spirituality in Social Work (Sp, Fa) This course provides a framework of knowledge, values, skills and experiences for spiritually-sensitive social work practice. It prepares students to respond competently and ethically to diverse spiritual and religious perspectives by...
using a comparative, critically reflective approach to content. Prerequisite: SCWK 3103 or SCWK 5003 or SCWK 5013.

SCWK5343 Advanced Practice with Groups (Sp, Su) This course provides advanced knowledge, skills, and values needed to assess and intervene effectively with populations seen in the social work practice of group therapy. This course examines group dynamics, life-course and strengths perspectives, and client-centered assessment of needs and their application in agency settings. Prerequisite: SCWK 5003 or SCWK 5013.

SCWK5412 Foundation Field Seminar (Sp) A required course for MSW students without an accredited undergraduate degree in social work. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to learn peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 5434.

SCWK5434 Foundation Field Internship (Sp) This course is required of all graduate students entering the MSW program without an accredited undergraduate degree in social work. Minimum of 330 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 5412. Prerequisite: SCWK 5003, SCWK 4333, SCWK 4073, SCWK 4093, and SCWK 4153.

SCWK5442 Field Seminar III (Su) This seminar is required of all graduate students entering the MSW program with advanced standing. Students integrate classroom content with experiences in the field, learn peer supervision and consultation, and learn from the experience of other students in the field. Corequisite: SCWK 5444. Prerequisite: Admission to graduate program with advanced standing.

SCWK5444 Field Internship III (Su) This course is required of all graduate students entering the MSW program with advanced standing. A minimum of 240 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 5442. Prerequisite: Admission to graduate program with advanced standing.

SCWK596V Independent Study (Sp, Su, Fa) (1-6) Independent study designed to meet the particular needs of individual graduate students. May be repeated for up to 6 hours of degree credit.

SCWK6000L Thesis Laboratory (Sp, Su) This laboratory is required for completion of the thesis, which is developed through components of the graduate Research & Technology sequence. Other courses in the graduate curriculum provide support for the conceptualization and development of the thesis. This laboratory is taken in conjunction with SCWK 5073 and SCWK 6073. Corequisite: SCWK 5073 and SCWK 6073.

SCWK6003 Advanced Practice I Using the Multi-System Life Course Perspective (Fa) In this first course of a two-semester sequence, students select a community problem, provide services to clients, and address the problem through policy analysis. A review of literature regarding theory and practice, paradigm analysis, development of a practice model, and implementation of micro and mezzo interventions in the field are examined. Corequisite: SCWK 6444, SCWK 6442, and SCWK 5073.

SCWK6013 Advanced Practice II Using the Multi-System Life Course Perspective (Sp) In this second of a two-course sequence students provide services to social work clients. This course covers application of life course theory and multi-system and diversity perspectives. Issues across the life course are considered in addressing interventions through program development, a grant proposal submission, and implementation of macro interventions. Corequisite: SCWK 6073, SCWK 6454, and SCWK 6452. Prerequisite: SCWK 6003.

SCWK6073 Social Work Research and Technology III (Sp) In this final research course, students collect and analyze data as planned in the thesis proposal submitted for Research and Technology II. Course content focuses on the advanced research skills necessary to complete the thesis. Students write a research report of their findings and submit it for publication. Corequisite: Lab component and SCWK 6013 and SCWK 6000L. Prerequisite: SCWK 5073.

SCWK6442 Advanced Field Seminar I (Fa) The first of two advanced field seminars required of all students in the MSW program. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to practice peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 6444. Prerequisite: SCWK 5412 or SCWK 5442.

SCWK6444 Advanced Field Internship I (Fa) This is the first of two advanced field internships required of all graduate students in the MSW program. A minimum of 330 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 6442. Prerequisite: SCWK 5434 or SCWK 5444.

SCWK6452 Advanced Field Seminar II (Sp) This is the second of two advanced field seminars required of all students in the MSW program. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to demonstrate peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 6454. Prerequisite: SCWK 6442.

SCWK6454 Advanced Field Internship II (Sp) This is the second of two advanced Field Internship courses required of all graduate students in the MSW program. A minimum of 330 clock hours of agency-based professional social work practicum experience supervised by a licensed MSW is required. Corequisite: SCWK 6452. Prerequisite: SCWK 6442.

Sociology (SOCI)

SOCI2013 General Sociology (Sp, Su, Fa) Group relations, culture, personality, social institutions, collective behavior, and social change.

SOCI2013H Honors General Sociology (Sp, Su, Fa) Group relations, culture, personality, social institutions, collective behavior, and social change.

SOCI2033 Social Problems (Sp, Su, Fa) Social disorganization, social strains, and deviant behavior, including consideration of war, poverty, ethnic relations, delinquency, drug addiction, mental illness, and population problems.

SOCI2043 Marriage and the Family (Fa) A sociological analysis of courtship, marriage, and parenthood patterns including gender relations in and diverse forms of contemporary American families.

SOCI3023 Criminology (Sp, Su, Fa) A survey of theories of crime causation, development of law, corrections, victimization, and police and policy. Prerequisite: SOCI 2013 or SOCI 2033. (Same as CMJS 3023)

SOCI3043 Contemporary Caribbean (Irregular) The background, development, social organization, problems, and prospects of the contemporary people of the Caribbean Islands and related territories.
SOCI3103 Religion and Society (Sp) Comparative study of religious organization, beliefs, practitioners, and rituals. Examination of major social science issues in the study of religion.

SOCI3153 Urban Sociology (Fa) The processes of urbanization; the nature of urban social organization; the impact of urban culture on non-urban society; implications for policy and planning; including study of foreign as well as American communities. Prerequisite: SOCI 2013.

SOCI3193 Race, Class, and Gender in America (Fa) Introduction to sociological theories and research on social inequality in the United States. Course focuses on the three prominent lines of social division in this society: class, gender, and race. Prerequisite: SOCI 2013.

SOCI3203 Corrections (Fa) A study of the origins, development, and practices related to corrections, including incarceration, community corrections and supervision, and intermediate sanctions. Prerequisite: CMJS 2003. (Same as CMJS 3203)

SOCI3223 Social Psychology (Fa) Current theories and research in social interaction, with emphasis on symbolic processes, role theory, theories of interpersonal behavior, socialization, and the relation of institutional structures to individual behavior. Prerequisite: SOCI 2013.

SOCI3253 Cultures of the South (Sp) Survey of the diverse ethnic and racial groups of the American South with special emphasis on social and cultural traits related to contemporary developments. (Same as ANTH 3253, PLSC 3273)

SOCI3301L Social Data and Analysis Laboratory (Sp, Fa) Applied statistics lab to accompany SOCI 3303. Corequisite: SOCI 3303.

SOCI3303 Social Data and Analysis (Sp, Fa) An introduction to descriptive and inferential statistics with special emphasis on those techniques most commonly used in social research. Corequisite: SOCI 3301L. Prerequisite: SOCI 2013.

SOCI3313 Social Research (Sp, Fa) Study and experience in current methods of social research with emphasis on sociological measurement and design. Prerequisite: SOCI 2013.

SOCI3513 Criminal Evidence (Sp) Examination of how criminal evidence is collected by police and used by prosecutors and defense attorneys within a constitutional framework. Prerequisite: CMJS 2003. (Same as CMJS 3513)

SOCI3723 Deviant Behavior (Fa) Prevalence, theories, stereotypical responses, and treatment programs for behaviors such as vagrancy, alcoholism, violence, and sexual deviancy which deviate from social norms.

SOCI399VH Honors Course (Sp, Fa) (1-6) Prerequisite: junior standing. May be repeated for up to 12 hours of degree credit.

SOCI4003 Internship in Sociology (Sp, Su, Fa) (Formerly SOCI 4006) Supervised experience in municipal, county, or state agencies, or any other agency which is approved by the instructor. Prerequisite: SOCI 2013.

SOCI4013 Special Topics in Sociology (Sp, Su, Fa) Designed to cover specialized topics not usually presented in depth in regular courses. Prerequisite: SOCI 2013. May be repeated for up to 6 hours of degree credit.

SOCI4023 Social Theory (Fa) Nineteenth and 20th century sociological theory. Present-day currents in sociology are studied and related to political, philosophical, and psychological contemporary thought. Prerequisite: SOCI 2013 and junior standing.

SOCI403V Individual Study in Sociology (Sp, Su, Fa) (1-3) A reading and conference course on special topics in sociology for advanced students.

SOCI4043 Seminar in Sociology (Sp) Prerequisite: Senior standing.

SOCI4063 Organizations in Society (Fa) An introduction to the study of organizations; provides a broad overview of issues and problems related to organizations in society. Prerequisite: SOCI 2013.

SOCI4073 Peoples of East Africa (Fa) The major institutional structures, dynamics and problems of the Africans, Asians, and Europeans of contemporary Uganda, Kenya, Tanzania, Somalia, Sudan, and Ethiopia. Prerequisite: SOCI 2013.

SOCI4113 Terrorism and Social Control (Irregular) Examination of the causes, consequences, and counterterrorism policies affecting terrorism committed against Americans, whether domestic or international. Prerequisite: CMJS 2003. (Same as CMJS 4113)

SOCI4123 Black Ghetto (Irregular) The origin, continuity, problems, and personalities, of the Black American community and its contributions to national and international life. Prerequisite: SOCI 2013.

SOCI4133 The Family (Irregular) A sociological analysis of the interactions and relationships which constitute the family as a group and as an institution, to include issues of gender and family diversity. Prerequisite: SOCI 2013 or SOCI 2033.

SOCI4603 Environmental Sociology (Sp) The course provides a social perspective on environmental issues. It examines the linkage between society, ecological systems and the physical environment. It provides conceptual framework(s) for analyzing environmental issues, considers the role of humans in environmental issues, and enhances understanding the complexity of the relationship between societal organization and environmental change. Prerequisite: Junior or above standing. (Same as RSOC 4603)

SOCI5001 Proseminar (Fa) An informal forum for graduate students and faculty to present and discuss ongoing research interests as well as the current state of the discipline. Prerequisite: Graduate standing.

SOCI500V Advanced Problems in Sociology (Sp, Su, Fa) (1-3) Individual research on problems or problem areas. Prerequisite: Graduate standing.

SOCI5013 Advanced Social Research (Fa) Supervised field experience and other projects in social research. Prerequisite: SOCI 3301L, SOCI 3303, and SOCI 3313 or instructor consent.

SOCI503V Special Topics (Irregular) (1-6) Designed to cover specialized topics not usually presented in depth in regular courses. Prerequisite: Graduate Standing. May be repeated for up to 6 hours of degree credit.

SOCI5043 Public Policy, Children and Families (Sp) The study of the impact of public policy on children and families, and the ways in which policies are created, modified, and changed. Includes the history of public policy concerning children and families.

SOCI5083 Applied Qualitative Research (Fa) An introduction to research strategies including intensive interviewing, participant observational fieldwork, content analysis, historical analysis, and comparative research. Emphasis on the practical aspects of designing and executive research
involving multiple methods of data gathering and analysis. Prerequisite: Graduate standing.

SOCI5113 Seminar in Social Inequality (Fa) Major theories of stratification; types of stratification systems, comparisons of modern and traditional systems; emergent trends. Prerequisite: Graduate standing.

SOCI5133 The Community (Even years, Sp) A sociological analysis of the theory, methods and materials used in the study of the community. Prerequisite: Graduate standing.

SOCI5153 Sociological Perspective on Social Psychology (Sp) Principles, concepts and methods used in analyzing effects of social structures and processes on the self and interaction. Topics include exchange theory, role analysis, symbolic interactionism, social construction of reality, socialization, interpersonal competence, organizational and leadership development, social dislocation, and stress. Prerequisite: Graduate standing.

SOCI5233 Theories of Deviance (Irregular) A survey of major theories-classical, developmental, ecological, functionalist, conflict, subcultural, control, and phenomenological-explaining morally condemned differences in society. Particular emphasis is on practical implications of each perspective for policy and social control. Prerequisite: Graduate standing.

SOCI5253 Classical Social Theory (Fa) A survey of social theory up to the late 20th century. An introduction to the classical sociological themes that continue to inform research, analysis, and policy formation. Major issues will include the relationship between the individual and the community, and the sources of stability, conflict, and change. Prerequisite: Graduate standing.

SOCI5263 Contemporary Social Theory (Fa) Analysis of contemporary social theories & major theoretical debates. Emphasis is on critical evaluation & application of theoretical perspectives to current social issues affecting families and communities. Prerequisite: SOCI 5253.

SOCI5311L Applied Data Analysis Laboratory (Sp) Provides instruction for data transformations required for the advanced statistical procedures used in the Statistical Package for the Social Sciences (SPSS). Also provides instruction in the use of advanced statistical procedures covered in SOCI 5313. Prerequisite: SOCI 3303 and SOCI 3301L or an equivalent course in statistics.

SOCI5313 Applied Data Analysis (Sp, Fa) Covers basic concepts and applications of the general linear model to a variety of sociological research issues and problems. Also provides an introduction to binary dependent and multivariate categorical data analysis for sociological research. Prerequisite: SOCI 3303 and SOCI 3301L and SOCI 5013. Familiarity with statistical computer programs is assumed.

SOCI5413 Seminar in Criminological Theory (Sp) An examination of the causation of crime, focusing primarily on sociological theories. Prerequisite: Graduate standing.

SOCI5423 Research in Criminology (Irregular) Examination of empirical research in criminology, focusing on methodological problems, strategies, and findings. Prerequisite: Graduate standing.

SOCI5433 Victimization (Irregular) Study of the causes, correlates, and consequences of victimization, focusing on theories of victimization and the role of victims in the criminal justice system. Prerequisite: Graduate standing.

SOCI5443 Seminar in Terrorism (Irregular) Examination of the causes and consequences of terrorism. Prerequisite: Graduate standing.

SOCI5453 Social Control (Irregular) Study of sociological theories and research on formal social control, primarily institutional responses to criminal behavior. Prerequisite: Graduate standing.

SOCI5463 White Collar Crime (Irregular) Study of the nature of white collar, professional, and corporate crime. Prerequisite: Graduate standing.

SOCI5503 Research Internship (Sp, Fa) Supervised research experience in field setting. Prerequisite: Graduate standing.

SOCI600V Master’s Thesis (Sp, Su, Fa) (1-6)

Space and Planetary Sciences (SPAC)

SPAC300V Space & Planetary Sciences Research (Irregular) (1-3) This course covers research in space and planetary sciences performed by undergraduate students in the University. Prerequisite: Junior Standing and Instructor Consent. May be repeated for up to 6 hours of degree credit.

SPAC3923H Honors Colloquium (Irregular) Covers special topics in the space and planetary sciences. Not restricted to any particular major. Prerequisite: Honors candidacy or permission of the instructor. May be repeated for up to 6 hours of degree credit.

SPAC5033 Planetary Systems (Odd years, Fa) The nature of the solar system and other planetary systems as deduced from observations and theoretical modelling. Structure and evolution of terrestrial and Jovian planets and their satellites. Planetary atmospheres, magnetospheres, and the solar wind; planetary interiors. Theoretical and observed properties of exoplanetary systems; astrobiology.

SPAC5111L Space and Planetary Lab (Fa) Laboratory course in space and planetary sciences consisting of experiments in the five major areas of space and planetary sciences: planetary astronomy, planetary geology, planetary atmospheres, origin and evolution of life and orbital mechanics and aeronautics. Intended for students enrolled in the graduate programs in space and planetary sciences.

SPAC5123 Internship (Sp, Fa) Internship for graduate students in the space and planetary sciences graduate degree programs and concentrations in the graduate programs in physics, biology, geosciences and mechanical engineering. Students conduct a phase of their research, normally for one month, at a national or industrial laboratory in North America or overseas.

SPAC5161 Seminar (Sp, Fa) Seminars organized by the Arkansas-Oklahoma Center for Space and Planetary Sciences covering topics on the cutting edge of research in the field for graduate students conducting research with a faculty member in the space and planetary sciences as part of their graduate degree programs or concentrations in the graduate programs in physics, biology, geology, geography and mechanical engineering.

SPAC5211 SPAC Proseminar (Sp) Introductory course consisting of discourses and case studies in ethics, communications and public policy in the administration of space and planetary sciences. Prerequisite: Admission to program or instructor consent.

SPAC5313 Planetary Atmospheres (Irregular) Origins of planetary atmospheres, structures of atmospheres, climate evolution, dynamics of atmospheres, levels in the atmosphere, the upper atmosphere, escape
of atmospheres, and comparative planetology of atmospheres. (Same as CHEG 5313)

SPAC5413 Planetary Geology (Even years, Sp) Exploration of the solar system, geology and stratigraphy, meteorite impacts, planetary surfaces, planetary crusts, basaltic volcanism, planetary interiors, chemical composition of the planets, origin and evolution of the Moon and planets.

SPAC5513 Biochemical Evolution (Odd years, Sp) Abiotic synthesis of biomolecules on Earth, the origin of cells; genetic information, origin of life on Earth an aduation rates of athletes were updated to reflect the 2005 cohort.

Page 64 — The office of Student Ombuds Services was eliminated from the Division of Student Affairs after the catalog went to press. Its description was removed from the PDF version of the catalog.

Page 262 — The Bachelor of Arts in Computer Science (B.A.) was added to the list of degree programs offered by the College of Engineering. The program had been offered by the J. William Fulbright College of Arts and Sciences in previous years but was moved to the College of Engineering in 2012.