NOTE: Northern Kentucky University has established abbreviations for its various disciplines. These abbreviations, which are printed below the name of each discipline in the following course descriptions, should be used in preparing course schedules and at other times when referring to specific courses. Following course titles are three figures in parentheses. The first of these indicates the number of lecture hours in the course; the second, the number of laboratory hours; and the third, the number of semester hours of credit.

The University reserves the right to withdraw or modify courses of instruction at any time.

**Accounting**

**ACC 101 Introduction to Accounting** (3,0,3) Recording, classifying, and posting transactions; preparing journals, ledgers, and financial statements; accounting for payrolls and various balance sheet accounts. Can be substituted for ACC 200 only by students who are completing the associate degree program. Not open to students pursuing a bachelor’s degree in a business discipline.

**ACC 150 Overview of Accounting** (3,0,3) Introduction to financial information generated by typical business organizations, with special emphasis on the use and interpretation of this information in managerial and financial decision-making processes by entrepreneurs. Enrollment priority given to ENTP minors. May not be substituted for ACC 200. Not open to students with credit for ACC 200 or ACC 201. Same as ENTP 150.

**ACC 200 Principles of Accounting I—Financial** (3,0,3) Preparation of primary financial statements: income statement, balance sheet, and statement of funds. PREREQ: sophomore standing; completion of one college level mathematics course; completion of computer competence requirement as determined by student’s major, or completion of IFS 105.

**ACC 201 Principles of Accounting II—Managerial** (3,0,3) Accounting concepts for internal use of management in planning and control of operations. PREREQ: ACC 200 and sophomore standing.

**ACC 202 Accounting Laboratory** (0,2,1) Computerized lab focusing on technical accounting skills. PREREQ: sophomore standing and completion of a college-level mathematics course and ACC 200 with a C or better.

**ACC 300 Intermediate Accounting I** (3,0,3) Financial accounting theory and practice in determination of income and valuation of assets and equities for external reporting; official pronouncements on generally accepted accounting principles; alternatives to these principles; accounting cycle, financial assets (cash, marketable securities, and receivables), inventories, and payables. Assessment test is given. PREREQ: ACC 200, ACC 201, and ACC 202 with grades of C or better, junior standing.

**ACC 301 Intermediate Accounting II** (3,0,3) Financial accounting theory and practice in determination of income and valuation of assets and equities for external reporting; official pronouncements on generally accepted accounting principles; alternatives to these principles; operating assets (tangible, intangible, and natural resources), long-term investments, current liabilities, long-term debt, owners’ equity, and earnings per share. PREREQ: junior standing; ACC 300 with a C or better; MAT 112.

**ACC 310 Accounting Information Systems** (3,0,3) Study of complex accounting systems including the steps of the accounting cycle from documents through the preparation of financial statements within the revenue, expenditure, conversion, and financial reporting cycles, the importance of internal controls and the impact of technology on the accounting system. The nature of accounting and business ethics as related to collecting, reporting, and auditing accounting data. Open only to students certified as majoring in business or by consent of instructor. PREREQ: ACC 200, ACC 201, ACC 202 with a C or better; IFS 105; MAT 112; junior standing.

**ACC 320 Tax Planning** (3,0,3) Impact of income tax on business entities, including corporations, S corporations, partnerships, limited liability companies and sole proprietors; gross income deductions, accounting periods, accounting methods and property transactions. PREREQ: junior standing; declared major in any bachelor’s program; ACC 200 and ACC 201 with grade of C or better and BUS 230.

**ACC 350 Management Cost Accounting I** (3,0,3) Cost accounting concepts, techniques, and procedures relating to financial reporting; decision-making and responsibility accounting to help management plan and control operations. PREREQ: junior standing, and STA 212, ACC 200-201-202 with grade of C or better.

**ACC 394 Topics in Accounting** (3,0,3) Specialized topics of faculty and student interest. Topics vary and prerequisites may be specified depending upon topics. May be taken twice for elective credit if topics differ. PREREQ: junior standing; ACC 200 and ACC 201 with grades of C or better.

**ACC 396 Internship: Accounting** (0,10-19,1-2) Supervised paid or unpaid work experience related to accounting and coordinated by employer in conjunction with a member of accounting faculty. May be repeated to a total of 6 semester hours. Graded pass/fail. PREREQ: completion of ACC 200 and ACC 201 with grades of C or better.

**ACC 400 Auditing** (3,0,3) Principles, standards, and procedures in conduct of an audit by CPA; functions and responsibilities; internal control; statistical sampling, audit report; special problems of auditing electronic-data-processing systems; account verification; ethics. Open only to students certified as majoring in business or by consent of instructor. Assessment test is given. PREREQ: ACC 301 and ACC 310 and ACC 350 with grades of C or better; ENG 340 or ENG 371; junior standing.

**ACC 405 Operational Auditing** (3,0,3) Focuses on the theory and practice of auditing within organizations; internal auditing standards; operational and value-added auditing; business and control risk assessments, data gathering techniques including CAATs, its statistical sampling, e-business auditing issues, evaluating auditing evidence, reporting, fraud detection and prevention, and ethics. Open only to students certified as majoring in business or by consent of instructor. AICPA test of concepts is given. PREREQ: ACC 301, ACC 310 and ACC 350 with grades of C or better; ENG 340 or OST 310 or SPE 303.

**ACC 420 Advanced Tax Planning** (3,0,3) Federal tax consequences of corporate reorganizations, liquidations, consolidations, consolidated tax returns; partnership distributions and terminations; multijurisdictional considerations, international and multistate taxation; individual tax planning, deferred compensation, retirement planning, estate and gift taxation, succession planning. PREREQ: junior standing; certified major in business; ACC 320 with grade of C or better.

**ACC 430 Accounting for Non-Profit Institutions** (3,0,3) Problems of control of funds and other assets; accounting classifications and relationships; planning, performance measurement, reporting, and auditing from the viewpoint of the non-profit (including governmental) organization. Open only to students certified as majoring in business or by consent of instructor. PREREQ: ACC 301 with a C or better; junior standing and certified major in business.

**ACC 450 Management Cost Accounting II** (3,0,3) Continuation of ACC 350. Application of quantitative techniques (e.g., statistical and O.R. models) to managerial problems; behavioral implications of budgetary control systems. Open only to students certified as majoring in business or by consent of instructor. PREREQ: ACC 310 and ACC 350 with grades of C or better; certified major in business.

**ACC 499 Independent Study: Accounting** (3,0,3) Independent project or intensive study/research with faculty guidance. Open only to students certified as majoring in business or by consent of instructor. PREREQ: senior standing and consent of instructor.
ACC 520 Tax Planning (3,0,3) Impact of income tax onbusiness entities, including corporations, S corporations, partnerships, limited liability companies and sole proprietors; gross income deductions, accounting periods, accounting methods and property transactions. PREREQ: Admission to the MACC program, ACC 200 and ACC 201, or permission of MACC director.

ANT 201 World Cultures
ANT 202 Introduction to Physical Anthropology
ANT 202L Introduction to Physical Anthropology Laboratory
ANT 210 Introduction to Archaeological Method and Theory
ANT 215 Archaeological Field Methods
ANT 231 Modern American Indians (3,0,3) Current problems faced by Indian populations in North America; history of Indian-white and Indian-black relations; relations to federal government. A general education course (behavioral sciences or non-western perspective). PREREQ: sophomore standing.
ANT 240 Peoples of Africa (3,0,3) Archaeology, geography, history, and cultures of Sub-Saharan Africa to the present; culture area concept. A general education course (behavioral sciences or non-western perspective). PREREQ: sophomore standing.

ANT 245 Peoples of Latin America (3,0,3) Contemporary cultures of Latin America; problems of contact, colonization, acculturation, development of the area cultural tradition, and contemporary urbanization. A general education course (behavioral sciences or non-western perspective). Same as SOC 245. PREREQ: sophomore standing.

ANT 270 Native Australia & Oceania (3,0,3) Origin; traditional ways of life of native peoples of Australia, Polynesia, Micronesia, and Melanesia; modern conditions. A general education course (behavioral sciences or non-western perspective).

ANT 273 Race, Gender and Culture (3,0,3) Race and gender as complex historical and cultural constructs; focus on the legacy of slavery involving racialized, sexualized, gendered and class-based identities. Develop writing skills and understanding of contemporary racial/gender identities and interrelationships. Same as HIS (TBA) and WMS (TBA). A general education course (behavioral science or race/gender).

ANT 275 Language and Culture (3,0,3) Methods and case studies in anthropological linguistics; relationship between language and culture; language structure. PREREQ: ANT 100.

ANT 294 Topics: Studies in Anthropology (3,0,3) Selected topics in anthropology and archaeology taught at the sophomore level. PREREQ: consent of instructor. A general education course (behavioral science).

ANT 301 World Patterns of Race and Ethnicity (3,0,3) Patterns of inter-group relations in multi-ethnic societies (e.g., South Africa, Brazil, Israel, and Northern Ireland); similarities and differences between these and U.S. Same as SOC 301. PREREQ: ANT 100 or SOC 100 or consent of instructor.

ANT 307 Museum Methods (2,2,3) Actual work experience in museums, stressing an anthropological and research orientation; history of museums and their role in the development of anthropology.

ANT 308 Cultural Resource Management (3,0,3) Practical, ethical, and legal issues surrounding the preservation of prehistoric and historic cultural resources on the local, state and national level. How to locate projects, make proposals and conduct CRM surveys; writing, submitting and reviewing reports; maintaining good community relations. PREREQ: ANT 210.

ANT 310 African Arts (3,0,3) Survey of African arts in their cultural context, including wood and metal sculpture, pottery, textile, decorative arts, architecture, music, dance, and other arts. A general education course (behavioral science). PREREQ: 3 credit hours of in anthropology or art.

ANT 312 Social Organization (3,0,3) Study of “primitive,” peasant, and urban social organization; associations based on kinship, ethnic affiliation, age, and gender. PREREQ: ANT 100.

ANT 320 Religion and Culture (3,0,3) Anthropological approaches to the study of religion, religious beliefs, and practices of selected non-western and western cultures. PREREQ: ANT 100 or ANT 201.

ANT 325 Applied Anthropology (3,0,3) Practical uses to which anthropology can be put solving problems through research, policy development, and administration; case studies in developmental anthropology, ethnic relations, medical anthropology, gerontology, and environmental anthropology; research project on selected topic. PREREQ: ANT100.

ANT 330 Women, Gender and Culture, a Global Perspective (3,0,3) Examines the position of women in various cultures around the world: considers women’s roles in local and world subsistence, economic, political, family, religious, and other institutions; examines the cultural construction of gender; seeks explanation for women’s low status and women’s struggle against loss of power. PREREQ: junior standing.

ANT 335 Advanced Archaeological Field Methods (3-4 sem. hrs.) Further experience in excavation, recording, mapping; excavation at an archaeological site. Summer. Three semester hours if taught during intersession; 4 if taught during 5-week session. PREREQ: ANT 210 and ANT 215.
ANT 339 Introduction to Ethnographic Research (1,0,1) Intro to principles of ethnographic research; readings; design of an ethnographic project. PREREQ: ANT 100, junior standing.

ANT 340 Ethnographic Methods (3,0,3) Each student conducts an individual ethnographic research project to be completed during the semester. COREQ: ANT 399. PREREQ: ANT 100; junior standing.

ANT 345 Environmental Anthropology (3,0,3) Sociocultural patterns of human-environmental interaction, applied research on and policy solutions to environmental problems in the western and non-western worlds.

ANT 350 North American Archaeology (3,0,3) Prehistoric cultures and cultural developments in the United States and Canada from the first settlement to late prehistoric times; regional cultural developments. PREREQ: ANT 100 or ANT 110 or ANT 210.

ANT 352 Archeology of Mesoamerica (3,0,3) Major pre-Colombian cultures from earliest times until the Spanish conquest (Aztecs, Mayas, etc.); rise of towns, ceremonial centers, cities, states, and empires; development and elaboration of area and regional cultural traditions; selected problems in Mesoamerican prehistory. PREREQ: ANT 100 or ANT 110.

ANT 355 Archaeological Laboratory Analysis (2,2,3) Follow-up study of excavated materials; artifact description, measurement, and analysis by students. PREREQ: ANT 210.

ANT 358 Anthropology and the Arts (3,0,3) Arts and art styles of Pacific, African, native North American, and other cultures; functions of art; relationship to other aspects of culture. PREREQ: 3 semester hours in anthropology or art.

ANT 360 Indians of Mexico and Guatemala (3,0,3) Aboriginal cultures of Mexico and Guatemala; economic, social, political, and religious aspects of traditional and contemporary Indian cultures. PREREQ: ANT 100 or ANT 201.

ANT 373 Underground Railroad in OH/KY Borderlands (3,0,5) Examines the Underground Railroad locally from an anthropological perspective. The self-pursuit of freedom by enslaved Africans, particularly enslaved women’s experiences and the roles of abolitionists of diverse backgrounds. Historical heritage (freedom trail) project educates the local community about local slavery, resistance and escape utilizing field trips, ethnographic and primary research methods. PREREQ: sophomore standing recommended and consent of instructor.

ANT 380 Origins of Civilization (3,0,3) The six major early civilizations: Mesopotamia, Egypt, Indus Valley, China, Mesoamerica, and Peru; archaeological background of the development of early civilization; various theories on the development of civilization. PREREQ: ANT 110 or ANT 201 or ANT 210.

ANT 391 Research Practicum I (3,0,3) Placement with agency for supervised experience in developing or applying research skills. Students will also meet with other practicum students and faculty field supervisors. Same as SOC 391. PREREQ: ANT 460 or SOC 460.

ANT 392 Research: Archaeology (1-6 sem. hrs.) Student investigation of selected archaeological topics chosen in consultation with instructor. PREREQ: ANT 210 or consent of instructor.

ANT 394 Topics: Anthropology (3,0,3) A newer development in any phase of anthropology. See Schedule of Classes for current topic and prerequisites.

ANT 401 Culture Theory (3,0,3) Development of the discipline; major theoretical and anthropological contributions. PREREQ: ANT 312.

ANT 410 Archaeological Theory (3,0,3) Theoretical bases of archaeological research; research design, analysis, and interpretation; socio-cultural reconstruction. PREREQ: ANT 210.

ANT 460 Research Practicum Preparation (1,0,1) Small-group seminar to introduce practicum skills: finding a placement assignment, writing a project proposal, making a contract, working with agency/business personnel, working in teams, scheduling projects, writing reports, and managing time. Same as SOC 460. PREREQ: SOC 322 or ANT 325.

ANT 480 Advanced Anthropological Concepts (1,0,1) Assessment testing, directed readings and individual projects in anthropology. To be taken in the anthropology major’s last semester. PREREQ: consent of instructor.

ANT 491 Research Practicum II (3,0,3) Continuation of ANT 391. Same as SOC 491.

ANT 499 Independent Study (1-6 sem. hrs.) Specialized aspect or topic in anthropology chosen by student and appropriate faculty member for study. PREREQ: junior or senior standing.

ANT 594 Topics: Anthropology (3,0,3) A special topic in any area of anthropology. For graduate students and advanced undergraduates. Repeatable up to 12 semester hours when topics vary. PREREQ: Consent of instructor.

ART ART

ART 100 Art Appreciation (3,0,3) Examination of major aspects of art to increase one's artistic awareness. A general education course (fine arts).

ART 111 Concepts in Art (3,3,3) Survey of issues, concepts, and professions in art; introduction to faculty work and ideas; current thinking in the disciplines. COREQ: ART 124

ART 123 Foundations: Studio I (3,3,3) Introduction and investigation of elementary aspects of making and understanding visual art, both 2 & 3 dimensionally. Development of personal articulation both visually and verbally through research, documentation, critical thinking, and utilization of the “Design Process.” Outside research will lend context to studio activity. PREREQ: ANT 210.

ART 124 Foundations: Studio II (3,3,3) Continuation of ART 123; content driven; addressing issues of expression, interpretation; use of narration and symbolism in art; investigation will include more experimental forms of art. PREREQ: ART 123, 210. COREQ: ART 111.

ART 221 Web Design for Non-Majors (3,0,3) Basic color theory; two-dimensional design; typography; layout; web design programs for non-majors. Basic Mac platform computer skills required. PREREQ: INF 186 or INF 286.

ART 299 Portfolio Review (0,1,0) Critique forum to evaluate students' progress and skill level, to help students successfully complete the art degree program; mechanism for faculty to admit students to professional BFA programs. All students majoring in art must register for and pass Portfolio Review after 60 semester hours of university coursework or 21 semester hours in art. Can be repeated once for BFA admission only. Not required for BA students.

ART 300 Art of the Book (3,3,3) Concepts, structures, and techniques necessary to create artists' books through lectures, slides, and visits to collections; binding techniques, paper, and materials; photocopying, rubber stamping, and letterpress printing. PREREQ: Foundation Core.

ART 380 Study Abroad in Art (0,0,1-3) Students would participate in and complete assignments associated with traveling with a member of the Department of Art faculty and or student group. PREREQ: Consent of instructor.

ART 394 Special Topics in Art (1-3 sem. hrs.) Group or individual study/research projects with art department faculty. Topics vary and include technical, conceptual and aesthetic issues and are listed in Schedule of Classes. Repeatable to 6 semester hours toward major in art.

ART 450 Seminar: Advanced Studio (3,0,3) Criticism of work, practical gallery experience, and expansion of awareness of contemporary professional realities in the exhibition and sale of one's work.

ART 494 Special Topics in Studio Art (1-3 sem. hrs.) Group or individual studio study/research projects with art department faculty. Topics vary and include technical, conceptual, and aesthetic issues and are listed in Schedule of Classes. Repeatable to 6 semester hours toward major in art.

ART 496 Teaching Assistantship in Art (0,0,1-3) Student will assist a current faculty member in the teaching of a course within the Department of Art. Stu-
dent responsibilities/involvement would vary based on a written agreement with instructor. PREREQ: consent of instructor.

ART 497 Senior Exhibition (0,1,0) Capstone experience for all students majoring in art. During the final semester of residency in the Department of Art, students will learn valuable skills of exhibition design and production, culminating in an exhibition of their work critiqued by a faculty committee. All students majoring in art must register for and pass Senior Exhibition. PREREQ: ART 299 (waived for BA students).

ART 498 Independent Study (3,0,3) Projects, directed by faculty members, must be selected before registration. A maximum of 6 semester hours of independent study is applicable toward the major in art.

ART 499 Gallery/Museum Internship (3-6 sem. hrs) Student works in gallery or museum gaining practical experience in methods, procedures, and programming specific to professional exhibition venues in the visual arts.

ARTC Ceramics

ARTC 240 Ceramics I (3,3,3) Nature of clay and ceramic materials; traditional methods of pinch, coil, and slab formations. PREREQ (waived for students not majoring in art): ART 123 and ARTD 210.

ARTC 340 Wheel Throwing (3,3,3) Basic orientation to wheel throwing; technique, form, and function; individual problem solving; maintaining and firing kilns; stoneware and firing techniques. May be repeated for a total of 9 semester hours. PREREQ: ARTC 240.

ARTC 341 Ceramic Sculpture (3,3,3) Clay as a sculptural medium; fabrication techniques, clay body formulation, and surfaces; engineering, installation, and assembly; introduction to experimental processes; individual problem solving. May be repeated for a total of 6 semester hours. PREREQ: ARTC 240.

ARTC 342 Raku and Primitive Firing (3,3,3) Advanced studio credit in Raku and primitive firing techniques. PREREQ: ARTC 240.

ARTC 440 Advanced Ceramics (3,3,3) Exhibition of student initiative in developing as ceramic artist; personal development stressed. Students are expected to execute projects expressive of their cumulative knowledge and suitable for a graduating senior show; presentation includes written materials, photographs, and finished objectives. To be repeated a minimum of 6 semester hours or a maximum of 12 semester hours. PREREQ: 9 credits of 300-level ceramics.

ARTC 442 Ceramics Materials and Techniques (3,3,3) Clay and glaze theory and formulation; materials handling and studio maintenance; laboratory work, lectures, and research. Required of students who concentrate in ceramics. PREREQ: ARTC 340 or ARTC 341.

ARTC 443 Kiln Construction (3,3,3) Theory and practice; experimentation with methods and materials. PREREQ: ARTC 340.

ARTD Drawing

ARTD 210 Drawing I (3,3,3) Various media and subject matter; composition; development of ability to observe and perceive spatial relationships. COREQ: ART 123.

ARTD 310 Intermediate Drawing (3,3,3) Continuation of ART 210. Human figure in development of spatial and tonal concepts; various media and color; advanced study of figure directed toward an individual medium and style. To be repeated for a total of 6 semester hours. PREREQ: Foundation Core.

ARTD 410 Advanced Drawing (3,3,3) Students will work towards execution of a body of work expressive of their cumulative knowledge; life drawing encouraged; working towards a graduating senior show. To be repeated for a minimum of 9 semester hours or a maximum of 12 semester hours. PREREQ: ARTD 310 for 6 semester hours.

ARTE Education

ARTE 280 Art for Elementary Education (3,3,3) Use of appropriate teaching methods, materials, techniques and vocabulary to develop meaningful art experiences in an elementary classroom. For students seeking provisional certification in Elementary Education. PREREQ: application to P-5 program.

ARTE 281 Concepts in Art Education (3,3,3) Introduction to the field of art education. Examination of current issues in teaching resources. Includes practical field experiences. PREREQ: Foundation Core.

ARTE 282 Art Education: Content I (3,3,3) Teaching methods, materials and inquiry for use in elementary art classrooms. Includes practical field experiences. PREREQ: ARTE 281.

ARTE 382 Art Education: Content II (3,3,3) Teaching methods, materials and inquiry for use in secondary art classrooms. Focus on curriculum development, assessment and classroom management. Includes practical field experience. PREREQ: ARTE 282.

ARTG Graphic Design

ARTG 224 Introduction to Computer Graphics for Design (3,3,3) Integration of the computer as a tool in the design process to produce painted, drafted, and drawn imagery for print applications. May be substituted by CEP 300 with consent of instructor or academic adviser. PREREQ: ART 123 and ART 210; COREQ: ART 124, ART 111.

ARTG 225 Introduction to Graphic Design (3,3,3) Principles and theory of graphic design aesthetics; introduction to materials and processes. PREREQ: ART 224. COREQ: ARTG 226.

ARTG 226 Introduction to Typography (3,3,3) Principles and theory of type for communication; design aesthetics of typography. PREREQ: ARTG 224. COREQ: ARG 225

ARTG 283 Admittance Review (0,0,0) Admittance review into the graphic design program. Students present their work from previous design and foundation level courses to the graphic design faculty for consideration in naming graphic design as their major. COREQ: ARTG 225, ARTG 226; PREREQ: ARTG 224.

ARTG 323 Intermediate Computer Graphics for Design (3,3,3) Principles of information design; the computer as a tool for design of advanced print and sequential graphic materials. PREREQ: ARTG 225, ARTG 226 and ARTG 283.

ARTG 325 Production for Graphic Designers (3,3,3) Development of preparatory art for utilization of industrial printing techniques and processes; copy preparation and mechanical. May be substituted by CEP 300 with consent of instructor or academic adviser. PREREQ: ARTG 225, ARTG 226, ARTG 283 and ARTG 323.

ARTG 326 Illustration (3,3,3) Techniques of creative rendering. PREREQ: ARTD 210, ARTP 230, ARTG 283 and ARTD 310.

ARTG 327 Advanced Typography (3,3,3) Design of the printed page; design considerations in varied formats; principles of information design; exploration of the grid as format for design of sequential graphics. PREREQ: ARTG 225, ARTG 226, ARTG 283, ARTH 321, and ARTG 325.

ARTG 421 Special Topics in Graphic Design (3, 3, 3) Topics in graphic design. Topics listed in Schedule of Classes as topics change. Repeatable to 9 semester hours toward major in graphic design. PREREQ: ARTG 283, ARTG 325, ARTG 327.

ARTG 425 Advanced Graphic Design I (3,3,3) Comprehensive graphic designing in project form; analysis and agency skills directed toward individual areas of specialization and professionalism. PREREQ: ARTG 283, ARTG 323, and ARTG 325.

ARTG 426 Advanced Graphic Design II (3,3,3) Continuation of ARTG 425. PREREQ: ARTG 425.
### ARTH Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 101</td>
<td>Survey of Western Art I</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>Examination of significant art and architecture from prehistory through Medieval Period. A general education course (fine arts).</td>
</tr>
<tr>
<td>ARTH 102</td>
<td>Survey of Western Art II</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>Examination of Europe’s major artists and styles from Renaissance to mid-19th century. A general education course (fine arts).</td>
</tr>
<tr>
<td>ARTH 103</td>
<td>Survey of Western Art III</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>A study of key artists and art movements in Europe and America from the late nineteenth through twentieth century. A general education course (fine arts).</td>
</tr>
<tr>
<td>ARTH 104</td>
<td>Survey of Asian Art</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>Major styles of architecture, sculpture, print-making, painting, and ceramics of India, South Asia, China, and Japan. A general education course (fine arts or non-western perspective).</td>
</tr>
<tr>
<td>ARTH 321</td>
<td>History of Design</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>Survey of history of design fields; influences of graphic, fashion, industrial, and interior design; implications of typography and advertising on history. PREREQ: ARTH 103, ARTG 225, and ARTG 226, and ARTG 283.</td>
</tr>
<tr>
<td>ARTH 349</td>
<td>Women and Art</td>
<td>3,0,3</td>
<td>ARTH 103</td>
<td>Significant women artists in the history of Western art from antiquity through modern times; issues and themes affecting women's participation in the visual arts.</td>
</tr>
<tr>
<td>ARTH 350</td>
<td>Ancient Art</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Painting, sculpture and architecture of Egypt, Greece, and Rome. PREREQ: ARTH 101, ARTH 102 and ARTH 103.</td>
</tr>
<tr>
<td>ARTH 351</td>
<td>Medieval Art</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Evolution of medieval art from late antiquity to end of Gothic period. PREREQ: ARTH 101, ARTH 102 and ARTH 103.</td>
</tr>
<tr>
<td>ARTH 352</td>
<td>Northern European Art/Renaissance</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Major artists of Europe during the 15th and 16th centuries. Discussion of the relationship of the Italian Renaissance to Northern European art and of the characteristics making Northern European art distinct from Italian. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 353</td>
<td>Baroque Art</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>European painting, sculpture, and architecture from 1600 to 1750. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 354</td>
<td>Art of the Nineteenth Century</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Sculpture and painting of Europe from the French Revolution to the end of the 19th century. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 355</td>
<td>Art of the Twentieth Century</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Major art styles in Europe and America. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 356</td>
<td>American Art</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Major development in the art of the U.S. from colonial times to the end of the 19th century. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 357</td>
<td>Art of the Italian Renaissance</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Art and architecture of the Italian Renaissance during the 15th and 16th centuries. PREREQ: ART 101-103.</td>
</tr>
<tr>
<td>ARTH 358</td>
<td>History of Photography</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Survey of the major issues in the evaluation of photography from 1835 to the present.</td>
</tr>
<tr>
<td>ARTH 359</td>
<td>Arts and Crafts of Japan</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Historical, cultural survey of Japanese arts and crafts; includes painting, printmaking, ceramics, textiles, gardening, Kabuki, and Noh drama. PREREQ: ART 104.</td>
</tr>
<tr>
<td>ARTH 360</td>
<td>African American Art</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>This course will examine the art of African Americans within an historic, social, cultural and religious framework. Influences and connections will be sought from an examination of African traditions, rituals and design as well as contemporaneous trends in music and the performing arts.</td>
</tr>
<tr>
<td>ARTH 452</td>
<td>Arts of South Asia</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>Cultural and historical topics on South Asian art and artifacts; aesthetics, architecture, film, literature, painting, and sculpture. PREREQ: ART 104.</td>
</tr>
<tr>
<td>ARTH 454</td>
<td>Art Now</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>In-depth study of contemporary art, the major movements and artists working today with an emphasis on the role of theory and criticism. PREREQ: 6 credit hours of ART Survey courses (ART 101, 102, 103, or 104).</td>
</tr>
<tr>
<td>ARTH 458</td>
<td>Art History: Methodology and Criticism</td>
<td>3,0,3</td>
<td>ARTH 101, ARTH 102 and ARTH 103</td>
<td>A practical guide and theoretical study of art historical and critical methods. PREREQ: ART 101, ART 102, and ART 103.</td>
</tr>
<tr>
<td>ARTO 210</td>
<td>Basic Photography</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Basic camera work; black-and-white materials; photo-history; contemporary trends; basic black-and-white darkroom techniques. PREREQ: Foundation Core.</td>
</tr>
<tr>
<td>ARTO 211</td>
<td>Basic Photo for Graphic Designers</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Geared for graphic designers, this non-darkroom class will teach students to shoot traditional transparencies, studio techniques with basic lighting, and work digitally to produce fine illustrative work.</td>
</tr>
<tr>
<td>ARTO 218</td>
<td>Study Abroad Beginning Photography</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Beginning Photography course for students traveling abroad. Instruction in exposure, composition, and traditional photographic techniques. Students are encouraged to shoot digitally although film-based cameras acceptable. Critiques while traveling and finished project of artist book or album at completion of trip.</td>
</tr>
<tr>
<td>ARTO 310</td>
<td>Photography</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Continuation of ART 290. PREREQ: ARTO 210.</td>
</tr>
<tr>
<td>ARTO 311</td>
<td>Intermediate Photography</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Advanced visual, technical, and conceptual problems initiated by students; in-depth investigations of historical and contemporary work. Can be repeated for a total of 6 semester hours. PREREQ: ARTO 310.</td>
</tr>
<tr>
<td>ARTO 313</td>
<td>Applied Photography I: Studio and Architecture</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Overview of commercial photography; view camera for studio illustration and architecture. Alternates with ART 395 spring semester. PREREQ: ARTO 210.</td>
</tr>
<tr>
<td>ARTO 314</td>
<td>Applied Photography II: Studio and Location</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Commercial photography techniques; studio portraits, environmental portraiture, fashion, industrial photography, color materials, portfolio development. Alternates with ART 392 spring semester. PREREQ: ARTO 210; recommended ART 310 and ARTO 313.</td>
</tr>
<tr>
<td>ARTO 315</td>
<td>Photo-documentary</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>The photo-documentary as an expression of history, sociology, and the human condition. Can be repeated for a total of 6 semester hours. PREREQ: ARTO 210.</td>
</tr>
<tr>
<td>ARTO 316</td>
<td>Web Design for Artists</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Create web sites for artists for the purpose of research, self-expression and self-promotion using image and web programs. Students learn effective use of animation and static pages to communicate with viewer on internet. Taught in Spring semesters. PREREQ: ART foundations and beginning photography course ARTO 210, ARTO 211, ARTO 213.</td>
</tr>
<tr>
<td>ARTO 317</td>
<td>Digital Photography I</td>
<td>3,0,3</td>
<td>Foundation Core</td>
<td>Introduction to digital photographic practices; pixel-based photographic controls for tone, color, retouching, masking, composition, and special effects. PREREQ: ARTO 210.</td>
</tr>
</tbody>
</table>
ARTP 318 Study Abroad Photography II (3,3,3) Intermediate photography course for students traveling abroad. Instruction in exposure, composition, and traditional photographic techniques with self-directed projects. Students are encouraged to shoot digitally although film-based cameras acceptable. Critiques while traveling and finished project of artist book or album at completion of trip.

ARTP 318 Color and Digital Photography (3,0,3) Visual and technical skills using color photographic materials including color negative film, and transparencies film. Digital photographic capture, editing, and printing.

ARTO 410 Advanced Photography (3,3,3) Student is expected to work towards a personal visual statement; relationship of student’s work with past and contemporary photographs; final development of a body of work suitable for exhibition as a one-person show. To be repeated a minimum of 6 semester hours or a maximum of 12 semester hours. PREREQ: ART 311.

ARTO 411 Summer Workshop in Photography (3,3,3) Intensive summer workshop in photography covering a variety of approaches and techniques. Repeatable up to 6 credit hours. PREREQ: ART 210.


ARTO 418 Study Abroad Photography III (3,3,3) Advanced photography course for students traveling abroad. Instruction in exposure, composition, and traditional photographic techniques with self-directed projects. Students are encouraged to shoot digitally although film-based cameras acceptable. Critiques while traveling and finished project of artist book or album at completion of trip.

ARTO 180 Painting for Non-Majors (3,3,3) Basic oil painting techniques to develop skills in painting; color mixing, various methods of paint application, basic drawing skills and canvas preparation, exercises in selecting subject matter and composition; use of models, still-life, and landscapes. Does not apply to major in studio art.

ARTP 230 Painting I (3,3,3) Use of oil painting media; focusing on fundamental painting techniques from direct observation; criticism and contemporary concepts. PREREQ: ART 123 and ARTD 210.

ARTP 232 Painting: Watercolor (3,3,3) Uses and fundamental and exploratory techniques of one of the traditional media in painting. PREREQ: ART 123 or ARTD 210.

ARTP 330 Painting II (3,3,3) Fundamental issues of figurative painting; sophistication of content; continued development of personal expression and creative invention based on observation and compositional concerns; exposure to professional standards for craft and conceptual responsibility. Repeatable up to 6 semester hours. PREREQ: ARTD 210 and ARTP 230.

ARTP 333 Materials and Techniques in Painting (3,3,3) Various paint media and techniques; professional studio methods; conceptual and craft development. May be repeated when topics vary for a maximum of 6 semester hours. PREREQ: freshman core courses, and ARTP 230.

ARTP 430 Painting III (3,3,3) Individual problems in painting; specialization in techniques suited to personal expression; independent painting under staff guidance; development of a consistent body of work suitable for a graduating senior show. To be repeated a minimum of 6 semester hours or a maximum of 12 semester hours. PREREQ: ARTP 330 and ARTP 333 for a total 9 semester hours.


ARTP 373 Intermediate Printmaking (3,3,3) Continuation of introductory printmaking; further development of technique and personal imagery in various printmaking disciplines; relief, intaglio, monoprint, silkscreen, or collography. Repeatable to 6 semester hours. PREREQ: ART 272.

ARTP 374 Techniques in Printmaking (3,3,3) Methods and processes in fine art printmaking in one or more of the following: relief, collagraphy; intaglio, lithography, mixed media, monotype, photo printmaking, screen printing; development of personal imagery. PREREQ: Foundations core. Repeatable to 12 semester hours.

ARTP 473 Advanced Printmaking (3,3,3) Advanced techniques in printmaking; development of personal imagery, refinement of technical skills, experimentation in mixed techniques; color painting. Repeatable for a maximum of 12 semester hours. PREREQ: ART 372, ART 373 or ART 374.

ARTP 474 Workshop in Printmaking (3,3,3) Independent study in advanced printmaking. PREREQ: consent of instructor. Repeatable to 12 hours.

ARTS 262 Sculpture I (3,3,3) Introduction to sculpture concepts, media, and techniques. PREREQ: ART 122. PREREQ: ART 123 and ARTD 210.

ARTS 362 Special Topics in Sculpture: Concepts and Media (3,3,3) In-depth exploration of sculptural media; conceptual development. May be repeated when topics vary for a minimum of 6 semester hours or a maximum of 9 semester hours. PREREQ: ARTS 262.

ARTS 460 Sculpture: Advanced Study (3,3,3) Visual, technical, and conceptual problems initiated by students; personal development; individual expression. Students are expected to execute a consistent body of work suitable for a senior show. May be repeated for a maximum of 12 semester hours. PREREQ: 9 credits of 300-level sculpture.

AST 110 Solar Systems Astronomy with Laboratory (3,2,4) Integrated lecture and laboratory; survey of the solar system with emphasis on application of scientific method; current thought on structure, dynamics, origin, and evolution of sun and planets; laboratory activities on observational techniques and astrophysical problems. Knowledge of elementary algebra is helpful. A general education course (natural sciences).

AST 115 Stars, Galaxies, and Cosmology with Laboratory (3,2,4) Integrated lecture and laboratory; structure, dynamics, origin, and evolution of stars, galaxies, and the universe within framework of scientific methodology; laboratory activities on observational techniques and astrophysical processes. Knowledge of elementary algebra is helpful. A general education course (natural sciences).

AST 294 Topics: Astronomy (1-3 sem. hrs.) Special topics in astronomy. Repeatable for a maximum of 12 semester hours. PREREQ: consent of department chair.

AST 315 Introductory Astrophysics (3,0,3) Quantitative application of physical principles to subjects of astronomical interests, such as the interaction of radiation with matter, analysis of stellar atmospheres, origin and evolution of the elements, and cosmology. Same as PHY 315. PREREQ: PHY 222 or PHY 213 and MAT 120 or MAT 122.

AST 325 Geology of the Planets (3,0,3) Geological features and history of the inner planets, satellites of the gas giants, asteroids and other small solid bodies. Same as GLY 325. PREREQ: 3 hours of geology courses or AST 110.

AST 392 Directed Research: Astronomy (1-3 sem. hrs.) Supervised research in an area of astronomy currently under investigation by one or more members of the astronomy faculty. Repeatable for a maximum of 9 semester hours. PRE-
COURSE DESCRIPTIONS  165

AST 394 Topics: Astronomy (3,0,3) Topics of current astronomical interest or significant physical and philosophical importance, e.g., cosmology, black holes, relativity, stellar evolution, the interstellar medium, observational techniques, space flight, and exobiology. PREREQ: AST 115 or consent of instructor.

AST 397 Special Projects: Astronomy (1-3 sem. hrs.) Completion of an independent project in astronomy. Repeatable for a maximum of 6 sem. hours. PRE-
REQ: junior standing.

AST 399 Independent Study: Astronomy (1-3 sem. hrs.) Directed projects for advanced students. PREREQ: AST 394.

AST 492 Directed Research: Astronomy (1-3 sem. hrs.) Supervised research in an area of astronomy currently under investigation by one or more members of the astronomy faculty. Repeatable for a maximum of 9 sem. hours. PRE-
REQ: 8 semester hours of upper division physics or astronomy courses.

Athletic Training Program

ATP 280 Pre-Athletic Training (1,0,1) Knowledge, skills, and values necessary for a student entering the Athletic Training Program (ATP). The course includes 75 hours observation with athletic trainers in a variety of employment settings. Students applying to the ATP must take this course simultaneously with PHE 280. PREREQ: Pre-Athletic Training major (XATH) COREQ: PHE 280.

ATP 296 Athletic Training Clinical I (0,2,1) A laboratory instruction and evaluation of NATA education competencies and clinical proficiencies associated with the topics presented in PHE 280 and other pre-professional courses. Course has an associated clinical assignment that provides a supervised practical experience in a clinical setting. PREREQ: HEA 135, PHE 280, BIO 208 (208L) and BIO 209 (209L).

ATP 300 Equipment Intensive Field Experience Program (0,2,1) The primary focus is the application of sport related equipment and includes knowledge and skills associated with high-risk sports medical coverage. Athletic Training Students must complete a minimum of 60 clock hours.

ATP 333 Lower Extremity Evaluation (3,0,3) Knowledge, skills, and values required for an entry level certified athletic trainer to assess lower extremity injuries associated with athletes and the physically active. The course will focus on pathology, etiology, clinical skills for assessment, proper care, and referral to other health care personal when necessary. PREREQ: PHE 280, BIO 208 (208L), and BIO 209 (209L).

ATP 334 Upper Extremity Evaluation (3,0,3) Knowledge, skills, and values required for an entry level certified athletic trainer to assess upper extremity injuries associated with athletes and the physically active. The course will focus on pathology, etiology, clinical skills for assessment, proper care, and referral to other health care personal when necessary. PREREQ: ATP 333, PHE 280, BIO 208 (208L), and BIO 209 (209L).

ATP 394 Athletic Training II (2,0,1) A laboratory instruction and evaluation of NATA education competencies and clinical proficiencies associated with the topics presented in ATP 333, PHE 280 and other athletic training major courses. Course has an associated clinical assignment that provides a supervised practical experience in an athletic training setting. PREREQ: Admission to the Athletic Training Program; ATP 333, PHE 280.

ATP 396 Athletic Training Clinical III (2,0,1) A laboratory instruction and evaluation of NATA education competencies and clinical proficiencies associated with the topics presented in ATP 334, 420, and PHE 370 and other athletic training major courses. Course has an associated clinical assignment that provides a supervised practical experience in an athletic training setting. PREREQ: Admission to the Athletic Training Program; ATP 333, 420, and PHE 370.

ATP 400 General Medical Field Experience (0,2,1) The General Medical Field Experience occurs with a family physician or physician assistant in the office environment. The athletic training student has the opportunity to observe and participate in general medical cases from the perspective of the physician. Ath-
letic Training students must complete a minimum of 60 clock hours. PREREQ: ATP 420 and admission to the athletic training program.

ATP 420 General Medical for Athletic Training (3,0,3) The principles necessary for an entry level certified athletic trainer to identify, assess, and provide appropriate care and referral of general medical (non orthopedic) conditions commonly seen by sports medicine specialists. PREREQ: PHE 280, ATP 333, BIO 208 (208L), and BIO 209 (209L).

ATP 425 Therapeutic Modalities (3,1,4) Provide knowledge, skills, and values that the entry level certified athletic trainer must possess to plan, implement, document, and evaluate the efficacy of therapeutic modalities in the treatment of injuries to and illness of athletes and others involved in physical activity. The course has a 1 hour mandatory lab. PREREQ: PHE 280, BIO 208 (208L), and BIO 209 (209L).

ATP 430 Pharmacology for Athletic Training (3,0,3) Exploration of legal, physiological, and ethical parameters governing the use of pharmacological agents commonly used in the athletic training settings. PREREQ: PHE 280, ATP 333, BIO 208, 208L, and BIO 209, 209L; admission into the Athletic Training Program or permission of instructor.

ATP 435 Administration of Athletic Health Care (3,0,3) Provides the athletic training student with information that will enhance his/her ability to function effectively as a professional and to enhance awareness of current administrative, professional, and legal issues pertaining to athletic training and sports medicine. PREREQ: PHE 280.

ATP 440 Rehabilitation of Athletic Injuries (3,1,4) Provides the knowledge, skills, and values that entry-level certified athletic trainers must possess to plan, implement, document, and evaluate the efficacy of therapeutic exercise programs for rehabilitation and reconditioning of the injuries and illnesses of athletes and others involved in physical activity. The course has a one hour mandatory lab. PREREQ: PHE 280, 370, ATP 333, 334, BIO 208, 208L, and BIO 209, 209L.

ATP 450 Rehabilitation Field Experience (0,2,1) The Rehabilitation Field Experience occurs with a physical therapist or athletic trainer in a sports medicine rehabilitation clinic. ATP 450 provides development of associated knowledge and skills unique to the clinic setting. Students must complete 60 clock hours. PREREQ: admission to the athletic training program and PHE 440, ATP 440.

ATP 455 Current Issues in Athletic Training (2,0,1) Provides a comprehensive review of modern athletic training issues. The course is also designed to provide the student with an introduction to research methods for health sciences/athletic training. PREREQ: PHE 360; admission to the Athletic Training Program or consent of instructor.

ATP 494 Athletic Training Clinical IV (2,0,1) A laboratory instruction and evaluation of NATA education competencies and clinical proficiencies associated with the topics presented in ATP 430, 425, PHE 260 and 440. The course has an associated clinical assignment that provides a supervised practical experience in an athletic training setting. PREREQ: Admission to Athletic Training Program and ATP 430, 425, PHE 260, 440.

ATP 496 Athletic Training Clinical V (2,0,1) A laboratory instruction and evaluation of NATA education competencies and clinical proficiencies associated with the topics presented in ATP 435, 440, PSY 405, PHE 465 and other athletic training major courses. The course has an associated clinical assignment that provides a supervised practical experience in an athletic training setting. PRE-
REQ: Admission to Athletic Training Program and ATP 435, 440, PSY 405, PHE 465.

Aviation Administration

AVA 100 Introduction to Aviation (3,0,3) Aviation from before powered flight through the social impact of space exploration and aerospace technology. Days, spring and fall; evenings, fall.

AVA 120 Principles of Passenger and Air Cargo Management (3,0,3) Planning, organization, directing, and controlling airlines. Evenings, spring.
AVA 180 Theory of Flight (3,0,3) Principles of flight; information on navigation, meteorology, aircraft operation, and air traffic-control necessary to pass Federal Aviation Agency (FAA) written examination for private pilot certificate. Days, spring and fall; evenings, fall.

AVA 181 Theory of Flight II Advanced (3,0,3) Advanced navigation problems and applications; uses of weather forecasts and data and in-flight advisories; performance charts, loading schedules, aircraft limitations, emergencies, flight systems, and pilot and crew duties; regulations pertaining to IFR and VFR flight and license; navigation chart interpretation of both VFR and IFR charts, national airspace uses; IFR departure, enroute, and arrival procedures. PREREQ: AVA 180.

AVA 186 Flight Education II Advanced (1,6,3) First of three phases of flight training in preparation for the FAA commercial and instrument pilot license; review and continuation of AVA 185; extensive navigation, including radio, VHF, and radar; night operations, night navigation, extensive basic instrument training. Fifteen hours of dual flight and 50 hours of solo flight necessary for credit. PREREQ: AVA 181 and AVA 185.

AVA 200 Aviation Problems (3,0,3) Individual study of vital areas in aviation; presentation and discussion of findings. Open only to graduating students. Evenings, spring.

AVA 210 Aviation Laws and Regulations (3,0,3) Liability for property damage and personal injury; role and practices of the Civil Aeronautics Board (CAB); aviation taxation and financing; aircraft safety and accident investigation; role and practices of the FAA; criminal acts related to aviation. Evenings, fall.

AVA 220 Aviation Marketing (3,0,3) Marketing in the airline industry; identification of markets; promotion and sales practices; service philosophies. Evenings, spring.

AVA 240 Airport Management (3,0,3) Administrative problems of aviation, e.g., financing, personnel recruitment and training, community and public relations, scheduling, and governmental regulations. Evenings, fall.

AVA 296 Internship: Aviation (1,10,3) Supervised work experience for students majoring in aviation; field assignments in airport administration, commercial carrier companies, or fixed-base operations, as appropriate. Open only to graduating students.

AVA 299 Independent Study: Aviation (1-3 sem. hrs.) Directed readings, independent research, or other areas of specific or individual academic interest. Not intended to substitute for any course offered on a regular basis. Written agreement between faculty and student must be submitted to department chair within first two weeks of semester; elements of agreement to include: purpose, objective, instructional activities, time frame, and evaluation procedure. PREREQ: consent of instructor.

Biological Sciences

BIO 120 General Biology (3,2,4) Cell biology; genetics; ecology; biological evolution and diversity. Not applicable to major or minor in biological sciences. A general education course (natural sciences). PREREQ: A minimum ACT score of 18 in each division (or SAT equivalent) or completion of all pre-college curriculum courses. Fall, spring, summer.

BIO 121 Human Systems (3,0,3) Nutritional, circulatory, excretory, respiratory, nervous, endocrine, reproductive, and developmental systems emphasizing humans. Not applicable to major or minor in biological sciences. A general education course (natural sciences). PREREQ: A minimum ACT score of 18 in each division (or SAT equivalent) or completion of all pre-college curriculum courses.

BIO 121L Human Systems Laboratory (0,2,1) Laboratory to accompany BIO 121. Microscopy, anatomy, and physiology. PREREQ or COREQ: BIO 121.

BIO 123 Human Ecology (3,0,3) Human influence and impact on the environment; basic ecological principles; energy sources and utilization; ethical, economic, political, and legal aspects of environmental problems and concerns. Not applicable to major or minor in biological sciences. A general education course (natural sciences). Spring. PREREQ: A general education course (natural sciences). PREREQ: A minimum ACT score of 18 in each division (or SAT equivalent) or completion of all pre-college curriculum courses.

BIO 125 Biological Perspective of Wellness (3,0,3) Core concepts of structure and function of human systems; contemporary holistic health attitudes and practices. Not applicable to major or minor in biological sciences. Fall, spring. A general education course (natural sciences). PREREQ: A minimum ACT score of 18 in each division (or SAT equivalent) or completion of all pre-college curriculum courses.

BIO 126 Human Nutrition (3,0,3) Human nutritional requirements; physiology of digestion and absorption; world food crises; food faddism and miracle diets. Not applicable to major or minor in biological sciences. Fall, spring. A general education course (natural sciences). PREREQ: A minimum ACT score of 18 in each division (or SAT equivalent) or completion of all pre-college curriculum courses.

BIO 129 Spring Flora of Kentucky (1 sem. hr.) Identification and uses of Kentucky's spring flowering plants. Two weekends (Saturday and Sunday) of field work. Spring. PREREQ: BIO 120.

BIO 131 Summer Flora of Kentucky (1 sem. hr.) Identification and uses of Kentucky's summer flowering plants. Two weekends (Saturday and Sunday) of field work. Summer, on demand. PREREQ: BIO 120.

BIO 150 Introduction to Biology I (3,0,4) Interrelationships between organisms and their environment: evolution, systematics, and diversity; cellular reproduction and Mendelian genetics. A general education course (natural sciences) but suggested only for students majoring or minoring in biological sciences. Fall, spring. PREREQ A minimum ACT score of 20 in math and 18 in each remaining division (or SAT equivalent), or completion of all pre-college curriculum courses. COREQ: BIO 150L. PREREQ or COREQ: CHE 120.

BIO 150L Introduction to Biology I: Laboratory (0,3,0) Laboratory to accompany BIO 150. A general education course (natural sciences) but suggested only for students majoring or minoring in biological sciences. COREQ: BIO 150.

BIO 151 Introduction to Biology II (3,0,4) Gene regulation; nutrient procurement; fluid transport; cell structure and function; photosynthesis and respiration. A general education course (natural sciences) but suggested only for students majoring or minoring in biological sciences. Spring, summer. PREREQ: BIO 150; COREQ: BIO 151L.

BIO 151L Introduction to Biology II: Laboratory (0,3,0) Laboratory to accompany BIO 151. A general education course (natural sciences) but suggested only for students majoring or minoring in biological sciences. COREQ: BIO 151.

BIO 155 Orientation to Biology (1,0,1) Biology issues and applications, methodology, career opportunities, and postgraduate options. Classroom discussions, faculty panels, and written essays. COREQ: BIO 151.

BIO 160 Plants and Human Cultures (1,4,3) Plants and their role in human history and cultures; development of agriculture; ecological role of plants; plant products (e.g., food plants, spices, drugs, fibers, wood, rubber); horticulture; plants in religion, art, music, literature; vegetation and people. Fall. PREREQ: BIO 120.

BIO 202 Microbiology for Health Professionals (2,4,4) Bacteriological techniques; control, epidemiology, and pathogenicity of microbiorganism; pathogenesis of host relationships; disease states. Fall, spring, summer. PREREQ: one semester of college biology and one semester of college chemistry (CHE 115 or above). COREQ: BIO 202.

BIO 202 Microbiology for Health Professionals Laboratory (0,4,0) Laboratory to accompany BIO 202. Bacteriological techniques. COREQ: BIO 202.

BIO 208 Human Anatomy and Physiology I (3,0,4) Introduction to human structure and function. Not applicable to major or minor in biological sciences. A general education course (natural sciences). Fall, spring, summer. PREREQ: Composite ACT of 19 or any college biology or chemistry course with a grade of C or better. COREQ: BIO 208L.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Coreqs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 208L</td>
<td>Human Anatomy and Physiology I: Laboratory</td>
<td>0,2,0</td>
<td>Laboratory to accompany BIO 208. Gross and microscopic morphology and application of physiological principles. A general education course (natural sciences). COREQ: BIO 208.</td>
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<tr>
<td>BIO 209</td>
<td>Human Anatomy and Physiology II</td>
<td>3,0,4</td>
<td>Continuation of BIO 208 with emphasis on structure and function of organ systems. Students should complete both BIO 208 and 209 for an overall survey of human structure and function. Not applicable to major or minor in biological sciences. Spring, summer (on demand). PREREQ: BIO 208. A general education course (natural sciences). COREQ: BIO 209L.</td>
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<tr>
<td>BIO 209L</td>
<td>Human Anatomy and Physiology II: Laboratory</td>
<td>0,2,0</td>
<td>Laboratory to accompany BIO 209. Gross and microscopic morphology and application of physiological principles. A general education course (natural sciences). COREQ: BIO 209.</td>
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<tr>
<td>BIO 211</td>
<td>General Botany</td>
<td>2,0,4</td>
<td>Morphology; taxonomy; physiology; genetics; ecology; evolution. Spring. PREREQ: BIO 150. COREQ: BIO 211L.</td>
<td></td>
</tr>
<tr>
<td>BIO 211L</td>
<td>General Botany: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 211. Field trips. COREQ: BIO 211.</td>
<td></td>
</tr>
<tr>
<td>BIO 235</td>
<td>Costa Rican Natural History</td>
<td>2,3,3</td>
<td>Overview of political, ecological, developmental and cultural interactions. Pre-and-post-Columbian history. Stress on ecological problems and solutions. Required field tip (lab) over spring break. A general education course (non-western).</td>
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<tr>
<td>BIO 245</td>
<td>Neurobiology</td>
<td>3,0,3</td>
<td>Application of principles of organismic, cell, and molecular biology to nervous system functions. Survey of current scientific literature on neuronal function and pathology. PREREQ: BIO 150/151.</td>
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<tr>
<td>BIO 250</td>
<td>Biological Photography</td>
<td>1,4,3</td>
<td>Special photographic techniques applicable in the biological sciences; micro-, macro-, close-up, telescopic, nature, and time-lapse photography; digital and film techniques; independent laboratory work. Spring, odd-numbered years. Not applicable to major or minor in biological sciences. PREREQ: BIO 150/151.</td>
<td></td>
</tr>
<tr>
<td>BIO 255</td>
<td>Biological Literature and Research</td>
<td>3,0,3</td>
<td>Information retrieval and presentation, introduction to biological literature. Scientific methodology including research problem selection, experimental design, literature survey, and proposal development. A course for the sophomore year. PREREQ: BIO 150-151.</td>
<td></td>
</tr>
<tr>
<td>BIO 262</td>
<td>Introduction to Tropical Field Studies</td>
<td>1,10,4</td>
<td>Biota of tropical forests and methods of study of tropical environments. One week on campus and 4 weeks at biological station in Costa Rica. Summers. PREREQ: BIO 150.</td>
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<tr>
<td>BIO 272</td>
<td>Medical and Biological Terminology</td>
<td>3,0,3</td>
<td>Derivatives, prefixes, roots, and suffixes. Fall. PREREQ: BIO 150 or BIO 208.</td>
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<tr>
<td>BIO 294</td>
<td>Topics: Biological Sciences</td>
<td>1-3</td>
<td>In depth study of specialized subject matter of general interest. May be repeated for credit when topic varies. Not applicable to major or minor in biological sciences. Offered on demand.</td>
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<tr>
<td>BIO 300</td>
<td>Comparative Vertebrate Anatomy</td>
<td>3,0,5</td>
<td>Organs and organ systems of representative vertebrates; phylogenic relationships among vertebrate classes. Fall. PREREQ: BIO 150-151. COREQ: BIO 300L.</td>
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<tr>
<td>BIO 300L</td>
<td>Comparative Vertebrate Anatomy: Laboratory</td>
<td>0,6,0</td>
<td>Laboratory to accompany BIO 300. COREQ: BIO 300.</td>
<td></td>
</tr>
<tr>
<td>BIO 301</td>
<td>Invertebrate Zoology</td>
<td>2,0,4</td>
<td>Classification, anatomy, physiology, ecology, and preservation of invertebrate animals. Fall, odd-numbered years. PREREQ: BIO 150-151. COREQ: BIO 301L.</td>
<td></td>
</tr>
<tr>
<td>BIO 301L</td>
<td>Invertebrate Zoology: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 301. Field trips. COREQ: BIO 301.</td>
<td></td>
</tr>
<tr>
<td>BIO 302</td>
<td>General Microbiology</td>
<td>2,0,4</td>
<td>Microbiological techniques; classification and morphology of microorganisms; biochemistry and control of growth; pathogenic microorganisms. Fall, spring. PREREQ: one semester of college chemistry and BIO 151. COREQ: BIO 302L.</td>
<td></td>
</tr>
<tr>
<td>BIO 302L</td>
<td>General Microbiology: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 302. Microbiological techniques. COREQ: BIO 302.</td>
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</tr>
<tr>
<td>BIO 303</td>
<td>Vertebrate Zoology</td>
<td>2,0,4</td>
<td>Classification, evolution, life histories, ecology, and distribution of vertebrates. Fall, even-numbered years. PREREQ: BIO 150-151. COREQ: BIO 303L.</td>
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<tr>
<td>BIO 303L</td>
<td>Vertebrate Zoology: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 303. Field trips. COREQ: BIO 303.</td>
<td></td>
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<tr>
<td>BIO 304</td>
<td>General Ecology</td>
<td>3,0,4</td>
<td>Interrelationships between organisms and their environment. Field PREREQ: BIO 150-151. COREQ: BIO 304L.</td>
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<tr>
<td>BIO 304L</td>
<td>Ecology Laboratory</td>
<td>0,3,0</td>
<td>Sampling techniques, experimental design, and data analyses in ecological research. Field trips. Fall. COREQ or PREREQ: BIO 304.</td>
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<tr>
<td>BIO 305</td>
<td>Vertebrate Embryology</td>
<td>3,0,4</td>
<td>Principles and mechanisms of embryonic development. Fall, even-numbered years. PREREQ: BIO 150-151. COREQ: BIO 305L.</td>
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<tr>
<td>BIO 305L</td>
<td>Vertebrate Embryology: Laboratory</td>
<td>0,2,0</td>
<td>Laboratory to accompany BIO 305. COREQ: BIO 305.</td>
<td></td>
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<tr>
<td>BIO 308</td>
<td>Plant Systematics</td>
<td>2,0,4</td>
<td>Principles and practices; identification, classification, nomenclature, and evolution of vascular plants; major plant families of local flora. Fall, odd-numbered years. PREREQ: BIO 150-150L. COREQ: BIO 308L.</td>
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<tr>
<td>BIO 308L</td>
<td>Plant Systematics: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 308. COREQ: BIO 308.</td>
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</tr>
<tr>
<td>BIO 309</td>
<td>Plant Ecology</td>
<td>3,0,3</td>
<td>Laboratory to accompany BIO 309. Field trips. COREQ: BIO 309.</td>
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<tr>
<td>BIO 310</td>
<td>Plant Morphology</td>
<td>2,0,4</td>
<td>Structure, life history, and relationships of representative plants. Spring, even numbered years. PREREQ: BIO 150-151. COREQ: BIO310L.</td>
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<tr>
<td>BIO 310L</td>
<td>Plant Morphology: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 310. COREQ: BIO 310.</td>
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<tr>
<td>BIO 311</td>
<td>Mycology</td>
<td>2,0,3</td>
<td>Morphology, identification, evolution, ecology, and culturing techniques of fungi. Fall, even-numbered years. PREREQ: BIO 150. COREQ: BIO 311L.</td>
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<tr>
<td>BIO 311L</td>
<td>Mycology: Laboratory</td>
<td>0,2,0</td>
<td>Laboratory to accompany BIO 311. COREQ: BIO 311.</td>
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<tr>
<td>BIO 312</td>
<td>Dendrology</td>
<td>1,0,3</td>
<td>Identification and vegetational aspects of woody plants, especially those of eastern U.S. Fall, even-numbered years. PREREQ: BIO 150-151 or BIO 211. COREQ: BIO 312L.</td>
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<tr>
<td>BIO 312L</td>
<td>Dendrology: Laboratory</td>
<td>0,6,0</td>
<td>Laboratory to accompany BIO 312. Field trips. COREQ: BIO 312.</td>
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<tr>
<td>BIO 320</td>
<td>Entomology</td>
<td>2,0,4</td>
<td>Anatomy, physiology, ecology, behavior, life cycles, classification, and economic effects of insects. Fall, even-numbered years. PREREQ: BIO 150-151. COREQ: BIO 320L.</td>
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<tr>
<td>BIO 320L</td>
<td>Entomology: Laboratory</td>
<td>0,4,0</td>
<td>Laboratory to accompany BIO 320. COREQ: BIO 320.</td>
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</tr>
<tr>
<td>BIO 330</td>
<td>Field Biology</td>
<td>0,8,4</td>
<td>Observation, collection, identification, and preservation of local plants and animals. Field trips. Summer, on demand. PREREQ: BIO 150-151.</td>
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</table>
BIO 342 Biometry (3,0,3) Statistical techniques for biological sciences. Fundamental experimental design, exploratory data analysis, parametric and non-parametric tests, and selected multivariate procedures as applied to biological data. Use of statistical software. PREREQ: BIO 151-151L and STA 205.

BIO 348 Genetics, Molecular and Cell I (3,0,3) Essential concepts in genetics, molecular and cell biology: macromolecules, DNA and chromosomes, DNA replication, recombination and repair, mitosis and meiosis, Mendelian genetics, gene expression, structure and function of cellular organelles. Fall. PREREQ: BIO 150-151 and CHE 120-121.

BIO 349 Genetics, Molecular and Cell II (3,0,4) Applications of knowledge gained in BIO 348. Human gene therapy, genetically modified organisms, the biology and genetics of cystic fibrosis, molecular phylogenetics, bioremediation, fermentation processes, conservation genetics, and cancer. Spring. PREREQ: BIO 348. COREQ: BIO 349L.

BIO 349L Genetics, Molecular and Cell Lab (0,3,0) Laboratory to accompany BIO 349. Hands-on experience with basic genetics, molecular, and cell biology techniques. Spring. COREQ: BIO 349.

BIO 352 Genetics (3,0,4) Gene concepts, interactions, and regulation; chromosomes; population genetics; extra chromosomal inheritance; genetics in human welfare. Fall, spring. PREREQ: BIO 150-151. COREQ: BIO 352L.

BIO 352L Genetics: Laboratory (0,2,0) Laboratory to accompany BIO 352. COREQ: BIO 352.

BIO 358 Evolution of Organisms (3,0,3) Mechanisms; historical and philosophical perspectives; empirical evidence; contemporary application. Spring. PREREQ: BIO 150-151 and BIO 352.

BIO 360 Advanced Biology of the Cell (3,0,3) Structure and function of cellular organelles; role of energy, membranes, nucleic acids, and proteins in cellular regulation; nature of nerve impulse. Spring. PREREQ: BIO 150-151 and one year of college chemistry (with laboratory).

BIO 381 Human Nutrition and Metabolism (3,0,3) Biochemistry and physiology of human nutritional requirements and deficiencies; current topics in nutrition, including food faddism, medical nutrition, and the world food crisis. Spring, even-numbered years. PREREQ: BIO 150-151 and CHE 310.

BIO 396 Externship: Biological Sciences (1-2 sem. hrs.) Experiential learning at institutions, universities, or businesses specializing in a biological field. Course may be repeated for new externship project; up to 4 semester hours may be earned in this course. For students majoring or minoring in biological or environmental sciences. Fall, spring, summer. PREREQ: BIO 150-151 and consent of instructor before registration.

BIO 396 Practicum: Veterinary Medicine (0,4,2) Work with a veterinarian specializing in large/small animals to learn skills and acquire practical information. For pre-veterinary students. Fall, spring. PREREQ: consent of instructor and a local veterinarian.

BIO 399 Techniques: Biological Sciences (1-2 sem. hrs. each) Experience in media preparation; in herbarium, museum, and field techniques; in use of laboratory equipment; or in other practical facets of biology. Topics decided upon in consultation between student and instructor. Up to 4 semester hours may be earned in this course. Fall, spring, summer. PREREQ: BIO 150-151, consent of instructor prior to registration.

BIO 400 Advanced Molecular Biology (2,0,4) Introduction to principles of modern molecular biology; DNA and RNA structure and synthesis; protein synthesis; gene structure, expression, and regulation; recombinant DNA techniques; plant and animal models; transgenics; contemporary bioethics issues. Spring. PREREQ: BIO 251-252, CHE 310-311; BIO 482 or CHE 482 recommended. COREQ: BIO 400L.

BIO 400L Advanced Molecular Biology: Laboratory (0,4,0) Laboratory to accompany BIO 400. DNA and RNA purification; DNA cloning and restriction enzyme analysis; plasmid vector screening and purification; Southern blotting; hybridization; Polymerase Chain Reaction (PCR); bacterial cell transformation; fusion proteins. COREQ: BIO 400.

BIO 402 Advanced Neurobiology (3,0,4) Explore the higher functions of the nervous system in terms of the molecular and cellular biology. PREREQ: BIO 245, BIO 255. COREQ: BIO 402L.

BIO 402L Advanced Neurobiology (0,1,0) Laboratory to accompany BIO 402. COREQ: BIO 402.

BIO 404 Herpetology (3,0,4) Evolution, classification, anatomy, physiology, behavior, and ecology of reptiles and amphibians; identification of local species. Spring, odd-numbered years. PREREQ: BIO 150-151, BIO 300 or BIO 303 recommended. COREQ: BIO 404L.

BIO 404L Herpetology: Laboratory (0,3,0) Laboratory to accompany BIO 404. Field trips. COREQ: BIO 404.

BIO 405 Invertebrate Paleontology (3,0,4) Major phyla in the fossil record; paleobiological, systematic, and evolutionary aspects; collection and identification of local fossils. Fall, odd-numbered years. Same as GY 402. PREREQ: BIO 301 or GLY 302. COREQ: BIO 405L.

BIO 405L Invertebrate Paleontology: Laboratory (0,2,0) Laboratory to accompany BIO 405. COREQ: BIO 405.

BIO 407 Ornithology (2,0,4) Classification, anatomy, physiology, behavior, ecology, and field identification of birds. Field trips. Intersession. PREREQ: one year of college biology and consent of instructor prior to registration. COREQ: BIO 407L.

BIO 407L Ornithology: Laboratory (0,6,0) Laboratory to accompany BIO 407. Field trips. COREQ: BIO 407.

BIO 409 Biogeography (3,0,3) Present and past geographical distribution of organisms. Spring, odd-numbered years. PREREQ: BIO 150-151.

BIO 410 Conservation Biology (3,0,3) Review of issues affecting modern conservation efforts: history, genetics, demography, biodiversity patterns, community change, global change, and environmental management. Spring, even-numbered years. PREREQ: BIO 150-151; BIO 304 and BIO 352 highly recommended.

BIO 412 Agrostology (1,0,3) Morphology, taxonomy, and biology of grasses, especially those of eastern U.S. Offered on demand. PREREQ: consent of instructor. COREQ: BIO 412L.

BIO 412L Agrostology: Laboratory (0,4,0) Laboratory to accompany BIO 412. Field trips. COREQ: BIO 412.

BIO 416 Field Botany (3-4 sem. hrs.) Observation, identification, and distribution of flora. Summer, even-numbered years. PREREQ: one year of college biology.

BIO 421 Mammalogy (3,0,4) Evolution, systematics, zoogeography, and natural history of mammals. Required field trips. PREREQ: BIO 150-151. COREQ: BIO 421L.

BIO 421L Mammalogy: Laboratory (0,3,0) Laboratory to accompany BIO 421. Field trips. COREQ: BIO 421.

BIO 422 Limnology (2,0,4) Physical, chemical, and biological properties of inland waters; organization of aquatic communities, phytoplankton, zooplankton, and benthes, trophic dynamics and eutrophication; limnological methods and techniques. Fall, odd-numbered years. PREREQ: one year of college biology and one year of college chemistry BIO 304 and BIO 255 recommended. COREQ: BIO 422L.

BIO 422L Limnology: Laboratory (0,4,0) Laboratory to accompany BIO 422. Field trips. COREQ: BIO 422.

BIO 425 Mammalian Anatomy and Physiology I (3,0,4) Anatomical, histological, and physiological mechanisms of skeletal, muscular, and nervous systems. First semester of a one-year course; students should follow this course with BIO 426. Fall. PREREQ: BIO 150-151; CHE 310. COREQ: BIO 425L.

BIO 425L Mammalian Anatomy and Physiology I Laboratory (0,3,0) Laboratory to accompany BIO 425. Fall. COREQ: BIO 425.
BIO 426 Mammalian Anatomy and Physiology II (3,0,4) Regulation of physiological processes. Continuation of BIO 425. Spring. PREREQ: BIO 255 and BIO 425 or consent of instructor. COREQ: BIO 426L.

BIO 426L Mammalian Anatomy and Physiology II: Laboratory (0,3,0) Laboratory to accompany BIO 426. Spring. COREQ: BIO 426.

BIO 430 Immunology (3,0,4) Biology of the immune response. Spring, odd-numbered years. PREREQ: one semester of microbiology. COREQ: BIO 430L.

BIO 430L Immunology: Laboratory (0,2,0) Laboratory to accompany BIO 430. COREQ: BIO 430.

BIO 440 Animal Behavior (3,0,4) Nervous systems and neurophysiology; classification, genetics, evolution, and ecology of behavior; developmental and social behavior. Spring, even-numbered years. PREREQ or COREQ: BIO 255 COREQ: BIO 440L.

BIO 440L Animal Behavior: Laboratory (0,3,0) Laboratory to accompany BIO 440. COREQ: BIO 440.

BIO 441 Animal Physiological Ecology (3,3,4) Internal adjustments by animals to physical changes at the organism-environment interface. Influence of the physical and biological characteristics of the external milieu on geographic, evolutionary, and temporal distribution of animals. Energetics, homeostasis, and adaptation, including role of behavior. PREREQ: BIO 351 and BIO 304. COREQ: BIO 441L.

BIO 441L Animal Physiological Ecology Lab (0,3,0) Laboratory to accompany BIO 441. COREQ: BIO 441.

BIO 445 Anatomy of Vascular Plants (2,0,4) Structure and differentiation of cells, tissues, and organs. Fall, even-numbered years. PREREQ: BIO 150-151, BIO 211. COREQ: BIO 445L.

BIO 446 Plant Physiology (3,0,4) Photosynthesis, cellular respiration, carbohydrate and protein metabolism, mineral nutrition, hormonal controls, and related topics in physiology of green plants. Spring, odd-numbered years. PREREQ: BIO 150-151 and CHE 311 (with laboratory). COREQ: BIO 446L.

BIO 446L Plant Physiology Laboratory (0,3,1) Laboratory to accompany BIO 446. COREQ: BIO 446.

BIO 450 Biology of Normal and Abnormal Growth (3,0,3) Growth processes in vertebrates, including normal body growth, organ growth, healing regeneration, and neoplasia. Spring, even-numbered years. PREREQ: BIO 150-151, BIO 305 recommended.

BIO 455 Scanning Electron Microscopy (0,6,3) Lecture-laboratory; theory and applications; phase contrast, polarizing, and transmission microscopes discussed for comparative purposes. Spring. PREREQ: one year of college biology and consent of instructor.

BIO 460 Introduction to Marine Science (3,2,4) Ecological processes in marine environments. Abiotic processes, productivity, coastal ecosystems, and marine biodiversity. Required field trip to coastal marine research laboratory. Fall, even-numbered years. PREREQ: BIO 151 and BIO 304. BIO 301 recommended.

BIO 461 Ecology and Geology of Coral Reefs (3,3,4) Ecological and geological processes in reef ecosystems. Benthic and pelagic biotic communities, reef development and erosion, sedimentation, ancient and modern reefs, responses to environmental change. Required field trip to marine research laboratory. PREREQ: Declared major at or above the sophomore level in a natural science and consent of instructor.

BIO 462 Tropical Ecology (3,0,3) Unique features of tropical ecosystems, abiotic characteristics, gap dynamics biodiversity, plant-animal interactions, economic importance of tropical forests, causes and consequences of tropical deforestation. Spring, even-numbered years. PREREQ: BIO 151. BIO 303 and 304 recommended.

BIO 463 Tropical Ecology Laboratory (0,10,1) Practical experience in studying tropical biota. Taught during spring break at location in tropics every other year. PREREQ: BIO 151. BIO 462 recommended.

BIO 465 Regional Biology (3-5 sem. hrs.) Intensive study of flora and/or fauna of a particular region. May be repeated once for a different region. Offered on demand. PREREQ: one year of college biology and consent of instructor.

BIO 467 Endocrinology (3,0,3) Human endocrine system, hormonal control of body processes, and hormonal disorders. Fall, odd-numbered years. PREREQ: BIO 150-151 and CHE 310.

BIO 470 Medical Microbiology (3,0,4) Pathogenic bacteria and viruses; techniques for isolation, identification, and control of specific disease agents; functions of the immune response in preventing and promoting disease. Fall, even-numbered years. PREREQ: BIO 302. COREQ: BIO 470L.

BIO 470L Medical Microbiology Laboratory (0,2,0) Laboratory to accompany BIO 495. COREQ: BIO 470.

BIO 474 Microbial Ecology (3,0,3) Interrelationships of prokaryotic and eukaryotic microorganisms in aquatic and terrestrial environments; microbial sampling and analysis methods. Spring, odd-numbered years. PREREQ: BIO 302. COREQ: BIO 474L.

BIO 474L Microbial Ecology: Laboratory (0,2,0) Laboratory to accompany BIO 474. COREQ: BIO 474.

BIO 475 Virology (3,0,3) Classification, chemical composition, morphology, genetics, and replication of viruses, action of physical and chemical agents on viruses; host response to viral infection. Fall, odd-numbered years. PREREQ: BIO 302.

BIO 482 Biochemistry I (3,0,3) Introduction to the chemistry of the molecules of life; carbohydrates, proteins, lipids; protein structure and function; enzyme mechanism; membrane structure and function; introduction to metabolism. Fall. Same as CHE 482. PREREQ: C or better in CHE 311.

BIO 482L Biochemistry I Laboratory (0,6,2) Advanced laboratory techniques used in isolation, purification, and characterization of amino acids, peptides, and proteins; training in use of modern equipment for experimentation and of computers for data analysis. Same as CHE 482L. COREQ: BIO 482 or CHE 482, or PREREQ: grade of C or better in BIO 482 or CHE 482.

BIO 483 Biochemistry II (3,0,3) Metabolism, biosynthesis of cell components, nucleic acid replication, protein synthesis, DNA recombination, hormone action. Spring. Same as CHE 483. PREREQ: C or better in BIO 482 or CHE 482.

BIO 491 Comprehensive Examination (1,0,0) Examination covering entire area of biological sciences. (Pass/Fail) PREREQ: 20 hours upper-division courses in Biological Sciences. Fall and Spring.

BIO 492 Directed Research (1-3 semester hrs. each) Development and completion of a scientific research project chosen in consultation with instructor. Final project report is required. Up to 6 semester hours may be earned in this course. For students majoring or minorinig in biological sciences and especially for those planning further study in graduate school. Fall, spring, summer. PREREQ: BIO 255 and consent of instructor.

BIO 494 Topics: Biological Sciences (1-3 sem. hrs. each) In depth study of specialized subject matter. May be repeated for credit once when topic varies. Offered on demand. PREREQ: junior or senior standing in biological sciences.

BIO 496 Assistant: Undergraduate Laboratory (1-2 sem. hrs.) Participation in planning, setting-up, teaching, conducting reviews, and testing in an undergraduate laboratory course. For students majoring or minorinig in biological sciences. Up to 4 semester hours may be earned in this course. Fall, spring, summer. PREREQ: BIO150-151, biology GPA of at least 3.00, and permission of instructor prior to registration.

BIO 521 Mammalogy for Teachers (3,0,3) A content course. Evolution, anatomy, adaptations, ecology and diversity of world mammals. Applicable for middle
and high school. Not open to students who have taken BIO 421. PREREQ: Certification to teach middle or high school science or permission of instructor.

**Business**

**BUS 101 Introduction to Business** (3,0,3) Basic knowledge of organizational structures, business functions, and types of business enterprises; assistance in decisions about majors and careers; socialization to expectations and behaviors associated with careers in business. Open only to students with fewer than 45 earned hours, or by consent of instructor.

**BUS 230 Legal Environment** (3,0,3) Concepts in legal environment; ethical considerations in business decisions; broad overview of judicial process, legal systems, contracts, torts, environmental and international issues, employment law, and consumer protection. PREREQ: sophomore standing.

**BUS 294 Topics: International Business** (3,0,3) Specialized topics of faculty and student interest. Topics vary and may be used for CCSA courses. May be taken three times if topics vary. PREREQ: sophomore standing.

**BUS 300 Career Enhancement** (1,0,1) Designed to assist students planning careers in business with the transition from college to the workforce. PREREQ: junior standing. Graded pass/fail.

**BUS 330 Ethics in Managerial Decision-Making** (3,0,3) Application of ethics to decision-making in business; case method, discussion and presentations. BUS 230 and junior standing. PREREQ: BUS 230 and junior standing.

**BUS 334 Business Entities and Commercial Paper** (3,0,3) Forms of business organizations including partnerships and corporations: nature and formation, benefits, financing and securities regulation, rights and responsibilities; commercial paper: basic concepts, negotiability, holders in due course, liability, defenses, discharge, checks and the banking system. PREREQ: BUS 230; junior standing; declared major in any bachelor's program.

**BUS 396 Internship: Business** (0,10 or 15,2 or 3) Supervised non-paid work experience at corporations in Greater Cincinnati related to student major or minor, and coordinated by a member of the participating organization and a member of the department faculty. Interested students must submit applications to the department chair. PREREQ: junior or senior standing and consent of instructor; declared major in any bachelor's program.

**BUS 394 Topics: Legal Environment** (3,0,3) Topics vary and will be listed in the Schedule of Classes. Repeatable to 6 semester hours. PREREQ: junior standing.

**BUS 532 CPA Law** (3,0,3) Legal topics relevant to professional accounting: contracts, agency, business entities, Uniform Commercial Code, and Securities law. PREREQ: BUS 230; junior standing; declared major in any bachelor's program or consent of Chair of Accountancy.

**Cooperative Education**

**CEP**

**CEP 101 Career Development** (2,0,2) Comprehensive overview of the career planning process; techniques of self assessment and career exploration; skills of decision making and job search. See Schedule of Classes for information on special sections for undeclared students, students interested in co-op, and students approaching graduation. PREREQ: completion of one semester of college coursework.

**CEP 300 Cooperative Education Experience I** (1-3 sem. hrs.) Supervised work experience relating to a student's academic major; employment learning experience planned, supervised, and coordinated by employer, faculty coordinator, and a member of the Career Development staff. Cooperative Education is open to most majors on campus. Students must complete an informational session in the Career Development Center prior to enrollment. Academic credits are awarded for the cooperative work experience on a variable scale. Students may choose to earn between 1 and 3 credits a semester for a maximum of 12 total CEP 300 credits. Once placed in a position by the Co-op Office, the student is required to register for Cooperative Education course credit each semester worked. Since co-op courses will be add-on credit, a student may earn credits as long as she/he is eligible to remain in the co-op program.

**Chemistry**

**CHE 102 Introduction to Chemistry** (3,0,3) Selected essential topics in chemistry, including solutions, reactions, stoichiometry, and properties of gases, liquids, and solids. Prerequisite for CHE 115 and CHE 120 for those who did not study chemistry in high school or are not prepared for CHE 115 or CHE 120. NOT a general education course. (Formerly CHE 110) PREREQ: A minimum score of 18 on the ACT math section or equivalent.

**CHE 105 Discovering Chemistry with Laboratory** (3,2,4) Integrated lecture and laboratory; basic principles of chemistry and their applications in daily life; promotion of reasoning and problem solving skills by utilizing computer based technologies and hands on, discovery/inquiry, and cooperative learning approaches. For all non-science students and students majoring in education. Cannot be taken for credit by students who have passed CHE 112. A general education course (natural sciences).

**CHE 112 Chemistry and Society** (3,0,3) Basic principles of chemistry and their applications in society. For students not majoring in science. Enrollment in CHE 112L is recommended but not required. Cannot be taken for credit by students who have passed CHE 105. (Formerly CHE 100) A general education course (natural sciences).

**CHE 112L Chemistry and Society Laboratory** (0,2,1) Simple laboratory techniques in experiments designed to study the properties of model compounds and consumer products; synthesis and analysis of common materials. (Formerly CHE 100L) A general education course (natural sciences). PREREQ or COREQ: CHE 112.

**CHE 115 Physiological Chemistry** (3,0,3) General, organic, and biological chemistry of the body; metabolism, pharmacology, toxicology, and nutrition. Not applicable toward a major or minor in the natural sciences. A general education course (natural sciences). PREREQ: high school chemistry and a minimum score of 18 on ACT math section or equivalent; or a C or better in CHE 102. COREQ: CHE 115L.

**CHE 115L Physiological Chemistry Laboratory** (0,2,1) Laboratory elucidation of chemical and biochemical principles. A general education course (natural sciences). COREQ: CHE 115.

**CHE 120 General Chemistry I** (3,0,3) Principles of chemistry; physical and chemical properties of elements and compounds. High school chemistry and either a minimum score of 20 on the ACT math section or equivalent; OR a C or better in CHE 102, OR placement. A general education course (natural sciences). COREQ: CHE 120L.

**CHE 120L General Chemistry Laboratory I** (0,3,1) Experiments describing principles of chemistry as well as those describing physical and chemical properties of elements and compounds. A general education course (natural sciences). COREQ: CHE 120.

**CHE 121 General Chemistry II** (3,0,3) Continuation of CHE 120. Enrollment in CHE 121L is strongly encouraged but is not required. A general education course (natural sciences). PREREQ: C or better in CHE 120.

**CHE 121L General Chemistry Laboratory II** (0,3,1) Continuation of CHE 120L. PREREQ: C or better in CHE 120L. PREREQ or COREQ: CHE 121. A general education course (natural sciences).

**CHE 292 Introductory Chemical Research** (0,0,0) Introduction to chemical research by participating in a special project or original research directed by a member of the chemistry faculty. Course intended for science majors interested in chemistry research but not ready or able to enroll in CHE 492. May only be taken once; pass/fail grade only. PREREQ: consent of instructor.

**CHE 305 Main Group Chemistry** (1,0,1) Detailed study of the elements found in groups 1, 2, 13-18; sources, reactions, representative compounds. PREREQ: C or better in CHE 121.

**CHE 310 Organic Chemistry I** (3,0,3) Introduction to the chemistry of carbon compounds; bonding, structure, and introductory analysis and synthesis. PREREQ: C or better in CHE 121.
CHE 301L Organic Chemistry Laboratory I (0,3,1) Introduction to the laboratory practice of organic chemistry; techniques and separations. PREREQ: C or better in CHE 121L. PREREQ: or COREQ: CHE 310.

CHE 311 Organic Chemistry II (3,0,3) Chemistry and properties of organic substances; reactions of functional groups, synthesis, and spectroscopic analysis. PREREQ: C or better in CHE 310.

CHE 311L Organic Chemistry Laboratory II (0,3,1) Reactions of organic compounds; identification of unknowns; synthesis. PREREQ: 310L. PREREQ: or COREQ: CHE 311.

CHE 320 Inorganic Chemistry (3,0,3) Chemistry of the elements and their compounds; coordination, bioinorganic and materials chemistry. Selected other topics. PREREQ: C or better in CHE 310. COREQ: CHE 320L.

CHE 320L Inorganic Chemistry Laboratory (0,6,2) Advanced laboratory synthesis, purification, and characterization of inorganic compounds; application of techniques in primary literature. COREQ: CHE 320.

CHE 330 Chemistry of Materials (1,2,1) Introduction to the chemistry of materials. Structure-property relations, including self-organization, magnetic properties, and nanostructures. Introduction to characterization methods used in the chemistry of materials. PREREQ: C or better in CHE 121.

CHE 340 Analytical Chemistry (2,0,2) Chemical and stoichiometric principles; gravimetric, volumetric, and spectrophotometric analysis. PREREQ: C or better in CHE 121. COREQ: CHE 340L.

CHE 340L Analytical Chemistry Laboratory (0,6,2) Quantitative determination of the elements; traditional chemical methods and some instrumental methods of analysis. PREREQ: CHE 121L. COREQ: CHE 340.

CHE 350 Instrumental Analysis (2,0,2) Analytical techniques involving modern chemical instruments. PREREQ: CHE 340-340L. COREQ: CHE 350L.

CHE 350L Instrumental Analysis Laboratory (0,6,2) Designed to familiarize students with modern analytical instruments. COREQ: CHE 350.

CHE 360 Physical Chemistry I (3,0,3) Classical thermodynamics, reaction equilibria, phase equilibria, and electrochemical systems. PREREQ: C or better in CHE 121 and MAT 220 or equivalent. PREREQ: or COREQ: PHY 222 or 213.

CHE 361 Physical Chemistry II (3,0,3) Kinetic molecular theory of gases, chemical kinetics, transport processes, elementary quantum chemistry, and spectroscopy. PREREQ: CHE 360 and PHY 222 or 213.

CHE 362L Physical Chemistry Laboratory (0,6,2) Experiments in thermodynamics, chemical kinetics, transport properties, spectroscopy, and elementary quantum chemistry. PREREQ: or COREQ: CHE 361.

CHE 391W Chemical Writing and Information (3,0,3) Use and analysis of chemical information sources. Emphasis on specific writing methods used in chemistry such as abstracts, reports, grants and grant reviews. A general education course (natural sciences). PREREQ: Chemistry major and one upper division CHE course.

CHE 392 Advanced Laboratory Projects (1-3 sem. hrs.) The study of published syntheses and other chemical reactions and experiments to develop usable protocols, procedures, or laboratory experiments. Directed by a member of the chemistry faculty. May be repeated for different lab courses for a total of no more than three credit hours. May not be used for the chemistry minor. PREREQ: consent of instructor.

CHE 396 Practicum: Chemistry Lab (1,0,1) Participation in planning, teaching, and testing in a designated undergraduate chemistry laboratory course. Designed especially for students majoring in chemistry and in science education. Up to 2 semester hours may be earned in this course. Does not count toward a minor in chemistry. PREREQ: consent of instructor and completion of the designated laboratory course with a grade of B or better.

CHE 399 Independent Study: Readings in Chemistry (1-3 sem. hrs.) Independent survey of literature; written reports on selected topics. Repeatable for a maximum of 4 semester hours. PREREQ: 20 semester hours of chemistry and consent of instructor.

CHE 400 Chemistry Seminar (1,0,1) Use of chemical literature searching and analysis techniques to prepare and present seminars and written reports. PREREQ: CHE 391W and an additional 20 semester hours of chemistry.

CHE 410 Spectrometric Identification of Compounds (2,0,2) Interpretation of data obtained by mass spectrometric analysis and by infrared, ultraviolet/visible, and nuclear magnetic resonance spectroscopic analyses as applied to the establishment of structure. PREREQ: C or better in CHE 310.

CHE 420 Organometallic Chemistry (1,2,1) Properties and uses of organometallic compounds; synthesis, purification, and characterization of organometallic compounds using current methods. PREREQ: C or better in CHE 311 and CHE 311L.

CHE 430 Molecular Modeling (1,2,1) Introduction to computer-based molecular modeling using molecular mechanics, molecular orbital theory, and density functional theory. Calculation of equilibrium and transition-state geometries, spectroscopic properties, and reaction energies. Modeling of structures of ball-players and docking of ligands into protein binding sites. PREREQ: C or better in CHE 310.

CHE 440 Environmental Chemistry (3,0,3) Chemistry as it applies to environmental problems and their solutions; analytical methods, energy needs, and biochemical application. PREREQ: C or better in CHE 311 and CHE 340.

CHE 482 Biochemistry I (3,0,3) Introduction to the chemistry of the molecules of life: carbohydrates, proteins, lipids; protein structure and function; enzyme mechanism; membrane structure and function; introduction to metabolism. Same as BIO 482. PREREQ: C or better in CHE 311.

CHE 482L Biochemistry Laboratory (0,6,2) Advanced laboratory techniques used in isolation, purification, and characterization of amino acids, peptides, and proteins; training in use of modern equipment for experimentation and computers for data analysis. Same as BIO 482L. PREREQ or COREQ: CHE 482 or BIO 482.

CHE 483 Biochemistry II (3,0,3) Metabolism, biosynthesis of cell components, nucleic acid replication, protein synthesis, DNA recombination, hormone action. Same as BIO 483. PREREQ: C or better in CHE 482 or BIO 482.

CHE 492 Research: Chemistry (1-3 sem. hrs.) Special project or original research directed by a member of the chemistry faculty. Most projects require at least two semesters of work. Upon agreement of student, instructor, and chair, some of the work may be completed outside of the normal semester calendar. Repeatable for a combined maximum of 12 semester hours. PREREQ: Consent of both instructor and chair of chemistry. Does not apply toward a minor in chemistry.

CHE 505 The History of Chemistry (2-3,0,2-3) Survey of chemistry’s significance in ancient and modern times. Investigation of key individuals and concepts in chemistry of the past and present. PREREQ: CHE 310.

CHE 511 Advanced Organic Synthesis (3,0,3) Analysis and design of complex syntheses, including total synthesis of natural products; stereochemical aspects of synthesis; asymmetric synthesis; spectroscopy in structure elucidation. PREREQ: C or better in CHE 311.

CHE 512 Physical Organic Chemistry (3,0,3) Current topics in spectroscopy, reaction mechanisms, and structure function correlations. PREREQ: CHE 360 and a C or better in CHE 311.

CHE 540 Electrochemistry (3,0,3) Theory and experimental applications of electro-analytical methods. PREREQ: CHE 350 and CHE 361.

CHE 560 Quantum Mechanics (3,0,3) Principles of quantum mechanics, the hydrogen atom, variational methods, and simple perturbation theory. Same as PHY 460. PREREQ: CHE 361 or PHY 361.

CHE 594 Topics in Chemistry (1-3 sem. hrs.) Discussion of topics in analytical, environmental, inorganic, nuclear, organic, and physical chemistry; chemistry
related topics: laboratory experience with operation and application of instruments and the computer. May be repeated as topics vary. PREREQ: consent of instructor.

**Chinese**

**CHI 101 Elementary Chinese I** (3,1,4) Basic skills in pronunciation, conversation, reading, and writing in pinyin (romanized Chinese) and ideograms traditional and simplified. *A general education course (humanities or non-western).*

**CHI 102 Elementary Chinese II** (3,1,4) Continuation of CHI 101; additional practice in conversation, pronunciation, reading, writing, and use of ideograms. *A general education course (humanities or non-western).* PREREQ: CHI 101 or equivalent.

**CHI 201 Intermediate Chinese I** (3,0,3) Review and extension of basic language skills learned in CHI 101 and CHI 102; reading and discussion of cultural, linguistic, and literary subjects. *A general education course (humanities or non-western).* PREREQ: CHI 102 or equivalent.

**CHI 202 Intermediate Chinese II** (3,0,3) Continuation of grammar review and enhancement of language skills begun in CHI 201; consideration of cultural, linguistic, and literary subjects. *A general education course (humanities or non-western).* PREREQ: CHI 201 or equivalent.

**College of Business**

**COB**

**COB 305 External Context For Business** (3,0,3) Interactions and interrelationships between the cultural, ethical, social, political, technological, and ecological factors constituting the external context for business; investigation of these topics through study of fiction and nonfiction, films and television programs, books, plays, and poems, and magazine, newspaper, and journal articles; guest speakers. Open only to students certified as majoring in a program leading to the bachelor of science in business administration. PREREQ: junior standing and certification as a business major.

**Computer Information Technology**

**CIT**

**CIT 140 Introduction to Computer Information Technology** (3,0,3) Introduction to terminology and domain of computer information technology including hardware components and software applications. Overview of the role of networks, the WWW, operating systems, security and programming in information systems with a focus on the common problems faced in these domains and effective problem solving techniques that are applied. PREREQ: C or better in MAH 099 or placement.

**CIT 141 PC/Networking Fundamentals** (1,2,2) This course provides an introduction to the information required to assemble and troubleshoot computers and networks. Students will learn how to properly install, configure, upgrade, troubleshoot, and repair PC hardware and common software. Hands-on experience with the components and software studied in the course will be provided. PREREQ: C or better in MAH 099 or placement.

**CIT 370 Operating Systems Technology** (3,2,4) Examination of modern operating systems including memory, processor, device, file, and network management. Introduction to system administration via an operating system case study. PREREQ: C or better in CSC 360 and CIT 140.

**CIT 383 Programming for System Administration** (3,0,3) Programming in a dynamically typed scripting language, including interfacing to operating system and network services and automation of common system administration tasks. PREREQ: INF 260, INF 284, CIT 370.

**CIT 384 Network Design/Troubleshooting** (3,0,3) Network and transport protocols (IP, TCP, UDP); hubs, switches, and routers; Network topologies, subnetting, and routing, including VLANs; capacity planning and redundancy; network troubleshooting using cable testers and network sniffers. PREREQ: INF 284.

**CIT 386 Web and Database Administration** (3,0,3) An applied, practical introduction to web and database administration; installing and configuring a web a server; name resolution; web server security and maintenance; server-side technologies; database creation; storage management; performance tuning; backup and recovery; security management. PREREQ: C or better in INF 282 and INF 286.

**CIT 394 Intermediate Topics: Computer Information Technology** (3,0,3) Various topics in Computer Information Technology. PREREQ: varies with topic (see Schedule of Classes).

**CIT 470 Advanced Network and System Administration** (3,2,4) Administering a networked computer system. Account, network configuration, security, file system and device management. Writing administrative scripts. PREREQ: C or better in CIT 370 and INF 284.

**CIT 484 Network Security** (3,0,3) Firewalls and intrusion detection systems; incident response; security protocols and VPNs; network server security; viruses and worms; wireless security basics. Network security architecture and policy development. PREREQ: CIT 384 and CSC 382.

**CIT 486 Three Tier Web Applications** (3,0,3) Design and implementation of a web site and its database backend. Client-side, database server-side, and web server issues associated with such a three-tier implementation will be investigated. PREREQ: C or better in CIT 386 and CSC 301.

**CIT 494 Advanced Topics: Computer Information Technology** (3,0,3) Various advanced topics in Computer Information Technology. PREREQ: varies with topic (see Schedule of Classes).

**CIT 496 Senior Practicum** (3,0,3) Students will work on information technology projects that allow them to integrate academic knowledge to real world situations. All placements require prior approval of instructor. PREREQ: CIT major, senior standing and approval of instructor.

**CIT 520 Managing Computer Systems** (3,2,4) The setup, configuration, and administration of networked computer systems. Current personal computer operating system technology. Hardware installation and troubleshooting. PREREQ: EDG 602 or senior standing in Business Education, Organizational Systems Technology, or Organizational Leadership degree programs.

**Computer Science**

**CSC**

**CSC 150 Computer Concepts and Applications** (3,0,3) Survey of computer technology and computer science; basic practice with contemporary office applications; design of simple web pages; topics in computer ethics. PREREQ: C or better in MAH 099 or placement.

**CSC 270 Mathematics Software Programming** (3,0,3) Programming and problem solving with a high-level mathematical software package; variables, control, modularity, processing of lists and vectors; recursion; visualization of functions; basic numerical and symbolic computation; simulation. PREREQ: C or better in MAT 121.

**CSC 299 Directed Readings/Independent Study** (1-3 semester hours) PREREQ: consent of instructor.

**CSC 301 Web Programming** (3,0,3) Design of interactive web applications and web sites containing dynamic content; software design for web-based client-server applications and database interaction; client-side and server-side techniques; language specific design issues. PREREQ: C or better in INF 260, INF 260L, INF 286.

**CSC 325 Introduction to Neural Networks and A.I.** (3,0,3) Survey of concepts in artificial neural networks for associative memory and learning; software simulations applied to sample problems; logic-based artificial intelligence; approximate reasoning; search concepts and problems, the limits of machine intelligence. PREREQ: INF 260 or BIO 370 or PSY 311, or consent of instructor.

**CSC 360 Object-Oriented Programming II** (3,0,3) Intermediate object-oriented programming concepts and practice: inheritance, basic graphical user interface elements; introduction to recursion; implementation of linked lists; use of basic container types. PREREQ: C or better in INF 260 and INF 260L. 
CSC 362 Computer Systems (3,0,3) ANSI C, pointers, pointer arithmetic; dynamic memory allocation; introduction to instruction sets, registers, addressing modes and assembly language; binary representations and bit manipulations; computer organization concepts. PREREQ: C or better in CSC 360.

CSC 364 Data Structures and Algorithms (3,0,3) Analysis and efficient implementation of container types such as stacks, queues, hash tables, search trees, and graphs; sorting algorithms. PREREQ: C or better in CSC 360.

CSC 375 Intermediate Topics in Programming (1-3, 0, 1-3) A project-oriented introduction to a contemporary programming language or development platform. PREREQ: varies with topic.

CSC 382 Computer Security (3,0,3) Applied cryptographic algorithms and protocols, secure programming, host, network, and data security, attacks and defenses, policies and procedures. PREREQ: CSC 360.

CSC 394 Intermediate Topics: Computer Science (3,0,3) Various topics in computer science. PREREQ: varies with topic (see Schedule of Classes)

CSC 399 Intermediate Directed Readings/Independent Study (1-3 sem. hrs.) PREREQ: consent of instructor.

CSC 402 Advanced Programming Methods (3,0,3) High-performance OO and generic programming in C++; concurrent and distributed programming; STL; multi-paradigm design patterns; extensive practice with sophisticated programming projects. PREREQ: C or better in CSC 362 and 364.

CSC 407 Concepts of Programming Languages (3,0,3) History of high-level languages; grammars and the compilation process; axiomatic semantics; language design and implementation issues; procedural, object-oriented, functional, and logic programming paradigms; case studies in important contemporary languages. PREREQ: C or better in CSC 362.

CSC 410 Compiler Construction (3,0,3) Lexical analysis; parsing; code generation; compiler project. PREREQ: C or better in CSC 402 and MAT 385.

CSC 425 Artificial Intelligence (3,0,3) Concepts and techniques of artificial intelligence; heuristic search, expert systems, AI languages, natural language processing, and elementary neural networks. PREREQ: C or better in CSC 364.

CSC 433 Computer Networks (3,0,3) Direct link networks, packet switching networks, internet working (IP), end-to-end protocols (TCP), Windows socket programming. PREREQ: C or better in CSC 362 and INF 284.

CSC 440 Software Engineering (3,1,4) Techniques in computer software specification, design, implementation, testing, documentation, and maintenance; development of a large-scale software project by students working in teams. PREREQ: C or better in CSC 402 and senior standing.

CSC 450 Database Management Systems (3,0,3) Design and implementation of relational database applications; implementation of various parts of a relational database management system; Structured Query Language, entity-relationship model, normal forms, concurrency control, crash recovery, indexing, evaluation of relational operators, relational query optimization. PREREQ: C or better in CSC 360 and INF 282.

CSC 460 Operating Systems (3,0,3) Internal structures and algorithms for file systems, I/O, memory management and process scheduling; examples drawn from contemporary operating systems such as UNIX and Windows NT. PREREQ: C or better in CSC 362 and CSC 364.

CSC 462 Computer Architecture (3,0,3) Implementation of control unit and arithmetic-logic unit, microprocessor organization and design, main memory and cache organizations, I/O subsystem; RISC vs. CISC instruction sets, pipelining, parallel processing; mechanisms for evaluating computer architectures and microprocessor performance. PREREQ: C or better in CSC 362.

CSC 464 Design and Analysis of Algorithms (3,0,3) Proofs of time and space bounds on important algorithms; advanced algorithms on graphs, sequences and sets; divide-and-conquer and dynamic programming; randomized algorithms; parallel algorithms. PREREQ: C or better in CSC 364 and MAT 385.

CSC 480 Computer Graphics (3,0,3) Basic concepts of two- and three-dimensional computer graphics including incremental methods, geometric transformations, windowing and clipping, hidden line and surface algorithms, and animation. PREREQ: C or better in CSC 364 and MAT 225.

CSC 483 Cryptology (3,0,3) Cryptology of classical ciphers, mathematical foundations of cryptology, Hill cipher, DES and AES, cryptography of public key cryptosystems. PREREQ: MAT 225 or CSC 362 or CSC 363.

CSC 485 Theory of Computation (3,0,3) Regular and context-free grammars; Turing machines; recursive and recursively enumerable languages; uncomputability; the Chomsky hierarchy; complexity classes such as P, NP, and NP-complete. PREREQ: C or better in MAT 385.

CSC 493 Research Seminar in Computer Science (1-3, 0, 1-3) Examination and presentation of contemporary research work in computer science. PREREQ: C or better in MAT 385 and CSC 364, and consent of instructor.

CSC 494 Advanced Topics: Computer Science (3,0,3) Various advanced topics in computer science. PREREQ: varies with topic (see Schedule of Classes).

CSC 499 Advanced Directed Readings/Independent Study (1-3 semester hours) PREREQ: consent of instructor.

CSC 501 Intermediate Programming Workshop (3,0,3) Intensive review of programming and data structures from an object-oriented perspective using the C++ language. Intended for students whose computer programming skills need refreshing or updating. PREREQ: graduate standing; background in computer programming and data structures.

CSC 502 Advanced Programming Methods (3,0,3) High-performance OO and generic programming in C++, concurrent and distributed programming; STL; multi-paradigm design patterns; extensive practice with sophisticated programming projects. PREREQ: Regular admission to MSCS program.

CSC 507 Concepts of Programming Languages (3,0,3) History of high-level languages; grammars and the compilation process; axiomatic semantics; language design and implementation issues; procedural, object-oriented, functional, and logic programming paradigms; case studies in important contemporary languages. PREREQ: Regular admission to MSCS program.

CSC 510 Compiler Construction (3,0,3) Lexical analysis; parsing; code generation; compiler project. PREREQ: Regular admission to MSCS program.

CSC 525 Artificial Intelligence (3,0,3) Concepts and techniques of artificial intelligence; heuristic search, expert systems, AI languages, natural language processing, and elementary neural networks. PREREQ: Regular admission to MSCS program.

CSC 533 Computer Networks (3,0,3) Direct link networks, packet switching networks, internet working (IP), end-to-end protocols (TCP), Windows socket programming. PREREQ: Regular admission to MSCS program.

CSC 540 Software Engineering (3,1,4) Techniques in computer software specification, design, implementation, testing, documentation, and maintenance; development of large-scale project by students working in teams. PREREQ: Regular admission to MSCS program.

CSC 550 Database Management Systems (3,0,3) Database design, normal forms, concurrent processing, recovery, security, relational model, Structured Query Language, hierarchical and network models. PREREQ: Regular admission to MSCS program.

CSC 560 Operating Systems (3,0,3) Internal structures and algorithms for file systems, I/O memory management and process scheduling; examples drawn from contemporary operating systems such as Unix and Windows. PREREQ: Regular admission to MSCS program.

CSC 562 Computer Architecture (3,0,3) Implementation of control unit and arithmetic-logic unit, microprocessor organization and design, main memory and cache organizations, I/O subsystem; RISC vs. CISC instruction sets, pipelining, parallel processing; mechanisms for evaluating computer architectures and microprocessor performance. PREREQ: C or better in CSC 362.
and microprocessor performance. PREREQ: Regular admission to MSCS program.

CSC 564 Design and Analysis of Algorithms (3,0,3) Proofs of time and space bounds on important algorithms; advanced algorithms on graphs, sequences and sets; divide-and-conquer and dynamic programming; randomized algorithms; parallel algorithms. PREREQ: Regular admission to MSCS program and MAT 225 or equivalent.

CSC 580 Computer Graphics (3,0,3) Basic concepts of two- and three-dimensional graphics including incremental methods, geometric transformations, windowing and clipping, hidden line and surface algorithms, and animations. PREREQ: Regular admission to MSCS program and MAT 225 or equivalent.

CSC 582 Computer Security (3,0,3) Cryptographic algorithms and protocols, secure programming, host, network, and data security, attacks and defenses, policies and procedures. PREREQ: MSIS 640 or CIT 570 or regular admission to MSCS program.

CSC 584 Cryptography (3,0,3) Cryptology of classical ciphers, DES and AES, public key cryptosystems, authentication and cryptographic hash functions. PREREQ: consent of instructor.

CSC 585 Theory of Computation (3,0,3) Regular and context-free grammars; Turing machines; recursive and recursively enumerable languages; uncomputability; the Chomsky hierarchy; complexity classes such as P, NP, and NP-complete. PREREQ: Regular admission to MSCS program.

CSC 593 Research Seminar: Computer Science (1-3,0,1-3) Examination and presentation of contemporary research work in computer science. PREREQ: Regular admission to MSCS program.

CSC 594 Intermediate Graduate Topics: Computer Science (3,0,3) Various advanced topics. PREREQ: Regular admission to MSCS program and consent of instructor.

CSC 599 Intermediate Independent Study (1-3,0, 1-3) PREREQ: Regular admission to MSCS Program, consent of instructor.

Construction Management

CMGT 101 Introduction to Construction Management (3,0,3) An introduction to construction occupations, terminology, delivery systems, and procedures; interpretation of working drawings, specifications, and construction contracts.

CMGT 120 Construction Materials (3,0,3) Properties and characteristics of materials used in modern construction, including concrete, metals, masonry, wood, ceramics, and synthetics.

CMGT 121 Construction Processes (2,2,3) Methods and techniques used to construct commercial and residential structures.

CMGT 122 Architectural Design and Drafting (1,2,2) Techniques and procedures used in designing and drafting working drawings for residential structures. PREREQ: CMGT 101.

CMGT 220 Plane Surveying (2,2,3) Procedures; care and operation of surveying instruments and equipment; generation and interpretation of field data; computation and site layout. PREREQ: MAT 118 or MAT 119.

CMGT 222 Architectural CAD (1,2,2) Introduction to Architectural CAD AEC software; drawing, dimensioning editing, layering, setting defaults, 3D pictorials, and plotting. Students will generate a complete set of architectural drawings as their project. PREREQ: CMGT 122.

CMGT 285 Strength of Materials (3,0,3) Principles of statics and strength of materials including properties of materials, forces, equilibrium, stresses, and strains are studied. Emphasis is placed on understanding the behavior of structural components in residential, commercial, and industrial buildings which are subjected to axial, shear, flexural, torsional and combined loads. PREREQ: CMGT 120.

CMGT 301 Cooperative Education in Construction Management (3 sem. hrs.) Supervised, objective based work experience related to a student's technology major. Coordinated by employer, faculty, coop coordinator, and student. Minimum of 20 hours on the job per week. Open to all students majoring in technology; may be repeated up to 9 semester hours. Apply to the Department of Construction Management and Organizational Leadership Office of Cooperative Education. PREREQ: CMGT 222.

CMGT 303 Construction Specifications and Estimating (3,0,3) Introduction to and interpretation of contract documents used in construction including specifications and project manuals. An introduction to basic estimating practices, bidding procedures, and contracts are discussed. PREREQ: CMGT 120 and 122.

CMGT 305 M/E/P Systems I (3,0,0) The study of fundamental principles and materials of electrical, plumbing, and HVAC systems are studied. The comprehension of electrical and mechanical construction plans and specifications is emphasized. PREREQ: CMGT 222.

CMGT 306 M/E/P Systems II (3,0,0) The comprehension and selection of electrical, plumbing, and HVAC systems are studied. Principles of code, design theory, methods, and materials are applied to electrical plumbing, heating, ventilation, and air conditioning systems for buildings. The comprehension of electrical and mechanical construction plans and specifications is emphasized. PREREQ: CMGT 305.

CMGT 312 Construction Fabrication (3,0,3) Theory and applications of fabrication, separating, joining, shaping, and reducing using a variety of materials used in the construction industry. PREREQ: CMGT 120.

CMGT 320 Construction Estimating (3,0,3) Interpretation of construction drawings and specifications; estimating quantities, cost of materials, and labor costs; work methods; job planning; project scheduling and control; field administration; management procedures of contracting. PREREQ: CMGT 303.

CMGT 322 Structural Design (3,0,3) Structural design and procedures to conform with current practice and industry recommended specifications and design standards for steel, wood, and reinforced concrete. PREREQ: CMGT 222; MAT 118 or MAT 119.

CMGT 323 Land Planning and Development (2,2,3) Practices in land planning and subdivision design; subsurface utility systems; environmental considerations. PREREQ: CMGT 220, CMGT 222, and CMGT 303.

CMGT 324 Construction Project Coordination (3,0,3) Subject matter and “simulated hands on” experiences in all phases of current construction project coordination and documentation. PREREQ: CMGT 320.

CMGT 325 Construction Safety (3,0,3) Construction safety and regulatory agencies; understanding of 29 CFR 1926 standards; elimination of construction site hazards. PREREQ: CMGT 120.

CMGT 328 Soil Technology and Foundation Design (2,2,3) Understanding the various types of soils, their stability and strengths and with this information understanding the design of soil stabilization and the structural concepts of foundations and substrutures. PREREQ: CMGT 220, CMGT 222, and CMGT 303.

CMGT 383 Advanced Technical Study (1-3 sem. hrs.) Participation in an employer based technical study program, in a technical seminar, or in a company based practicum. Supervision arranged by the instructor and the agency sponsoring the program. Application must be made with instructor in semester preceding experience. Forty hours of work for each semester hour. PREQ: CMGT 222.

CMGT 399 Independent Study in Construction Management (1-3,0,1-3) For advanced students seeking to study selected problems. PREREQ: consent of department chair.

CGMT 400 Building Codes (3,0,3) IBC/IRC, Understanding the application of the national building codes for residential (RBC) and commercial building codes (IRC). PREREQ: CMGT 303.
CMGT 413 Drafting in Specialized Fields (2,2,3) Modern procedures and techniques; new developments, specialized fields, and processes. PREREQ: CMGT 222.

CMGT 415 Construction Management (3,0,3) Principles of construction management applied to a construction project; site facilities planning, procurement, shop drawings and submittals, scheduling, coordinating and tracking subcontracts, tracking change orders, and job cost. PREREQ: CMGT 324.

CMGT 424 Construction Restoration and Renovation (2,2,3) Procedures and techniques for renovating and restoring residential and commercial structures; identifying classical architecture; guidelines for historic preservation; preparation of documents, contracts, drawings, and specifications for renovation of an historic structure. PREREQ: CMGT 322 and CMGT 324.

CMGT 426 Heavy Construction Techniques and Analysis (3,0,3) Latest concepts, procedures, and techniques used in analyzing the processes of heavy construction. PREREQ: CMGT 220, CMGT 303, and CMGT 222.

CMGT 427 Construction Law and Legal Contracts (3,0,3) Contract law principles, mechanics liens, tort law, labor and employment law, insurance and suretyship, arbitration, and contract license law. PREREQ: CMGT 303.

CMGT 429 Civil Design (2,2,3) Principles of civil system design, construction, and processes; including roadways, underground utilities, retention and detention structures, traffic engineering, and regulations. PREREQ: CMGT 220, CMGT 222, and CMGT 320.

CMGT 430 Design/Building (3,0,3) Major commercial/industrial contractors and their customers want building on a fast track. The design of the building is taking place as the building as the building is being built. Construction design techniques and procedures of fast track building. PREREQ: CMGT 320 and CMGT 328.

CMGT 431 Capstone: Commercial and Residential (2,2,3) Techniques used in the development of the design of a commercial and/or resident structure, civil design of site using the specifications, structural, electrical/mechanical, estimating, and project planning concept. Resident project content will parallel closely competition project requirement for the National Homebuilders Contest. Community involvement stressed. Should be completed within last 20 semester hours of CMGT program. PREREQ: CMGT 322, CMGT 324, CMGT 400, CMGT 429 and CMGT 430.

CMGT 494 Seminar: Construction Management (3,0,3) Readings and discussion of critical questions. Topics vary according to interests and needs of students. May be repeated two times (6 sem. hrs.). PREREQ: CMGT 222.

Dance

DAN 120 Ballet I (0,2-4,3) Introduction to technique for students with little or no dance training.

DAN 220 Ballet II (0,2-4,3) Intermediate level. PREREQ: consent of instructor or chair.

DAN 221 Modern Dance I (0, 2-4, 3) Beginning level.

DAN 222 Jazz Dance I (0,2-4,3) Introduction to jazz dance technique. For students with little or no jazz dance training. PREREQ: DAN 120

DAN 224 Tap Dance I (0,2,2) Introduction to tap dance technique. No previous training necessary.

DAN 226 Foundation Seminar (0-2-6,2) Execute corrective exercise by strengthening muscle tissue and skeletal connections, learning technical skills essential for all areas of dance; analyze movement strategies for proper body alignment. May be repeated for a maximum of 4 hours. PREREQ: 2 DAN classes and consent of instructor or chair.

DAN 227 Special Topics in Dance (0-2,2-4,2-6) Opportunity for introductory work in specialized topics related to student's areas of concentration. Can be repeated for credit up to 9 hours.

DAN 321 Modern Dance II (0,2-4,3) Intermediate level. PREREQ: DAN 221 or consent of instructor or chair.

DAN 322 Jazz Dance II (0,2-4,3) Intermediate level. PREREQ: DAN 222 or consent of instructor or chair.

DAN 324 Tap Dance II (0,2-4,3) Dance work in tap dance: audition and performance preparation; techniques in choreography. PREREQ: DAN 224 or consent of instructor or chair.

DAN 326 Advanced Dance Seminar I (2-4, 2-6 each) Advanced work in dance (all genres may be explored) for students majoring in theatre and skilled dancers. PREREQ: consent of instructor or chair.

DAN 375 Choreography (3,3,3) Interpretations of ballets and stage musicals as expressed in movement and dance. PREREQ: 6 semester hours of dance or consent of instructor or chair.

DAN 426 Advanced Dance Seminar II (0-2, 2-4, 2-6) More advanced level of dance training (all genres may be explored) for students majoring in theatre and for skilled dancers; all genres. May be repeated for credit. PREREQ: consent of instructor or chair.

DAN 427 Dance History (3,0,3) Major contributing forces, key figures, and styles that helped form contemporary dance today. PREREQ: 6 semester hours of dance.

DAN 428 Special Problems in Dance (0,2-6,3) Opportunity for additional advanced work in the dance student's area of concentration. The studio technique allows the student to choose from among electives in specific areas of interest. PREREQ: 3 semester hours of dance.

DAN 599 Individual Studies in Dance (0,1-3,1-3) Individual creative or research projects in one or more areas of dance: ballet, Tap, Jazz, Modern, Musical Theatre, or dance history. Projects directed by TAR/DAN faculty must be approved prior to registration. May be repeated for up to nine hours credit.

Economics

ECO 200 Principles of Macroeconomics (3,0,3) Introductory macroeconomics; national income and employment; economic role of government; role of money and banking system; international trade. A general education course (social sciences). PREREQ: sophomore standing and completion of one college-level mathematics course.

ECO 201 Principles of Microeconomics (3,0,3) Individual market behavior in capitalistic economy; role of supply and demand in determination of value and resource allocation; monopoly and its regulation; problems of economic growth; population growth, and environment. A general education course (social sciences). PREREQ: sophomore standing and completion of one college-level course.

ECO 215 Contemporary Economic Issues (3,0,3) Basic principles and structure used in economic decision making; analysis of economic institutions, social issues, and the basic objectives of efficiency, equity, stability, and growth of economic activity. Not applicable to a major or minor in business. Will not substitute for ECO 200 and/or ECO 201. A general education course (social sciences). PREREQ: sophomore standing.

ECO 300 Intermediate Macroeconomics (3,0,3) Theory of economic aggregates; advanced analysis of national income determination and employment; development of policy on inflation, unemployment, and economic growth; the internet and data sources available on the World Wide Web. PREREQ: ECO 200-201, and STA 205 or STA 212.

ECO 301 Intermediate Microeconomics (3,0,3) Theory of optimal price; output and employment decisions of firms under varying market structures; individual and market demand; general equilibrium; case studies of major topics. PREREQ: ECO 200-201, STA 205 or STA 212.

ECO 302 Money and Banking (3,0,3) Role of major financial sectors in determining aggregate supply of money and credit; competing theories on demand for
money and their policy implications of the effect of money supply on important economic aggregates. PREREQ: ECO 200-201, STA 205 or STA 212.

ECO 305 International Context for Business (3,0,3) Domestic and global economic environments of organizations; interactions and interrelationships between the cultural, ethical, social, political, technological, and ecological factors constituting the international context for business. PREREQ: Certified as a business major or declared major in economics.

ECO 310 Introduction to Econometrics (3,0,3) Introduction to economic measurement; review of statistics, theoretical models, analysis of economic data, forecasting and other technical considerations; gathering, analyzing, and presenting economic information. PREREQ: ECO 200-201 and STA 205 or STA 212.

ECO 320 History of Economic Thought (3,0,3) Development of economic theory from the time of ancient Greece to John Maynard Keynes; major economic ideas of past and present and the individuals who developed those ideas. PREREQ: ECO 200-201.

ECO 322 American Economic Development (3,0,3) American economic history; processes of industrialization; widening of markets; extension of transportation communication networks. PREREQ: ECO 200-201.

ECO 330 Regional Economics (3,0,3) Application of economic analysis to explain spatial patterns of economic activity within subdivisions of the larger economic system. PREREQ: ECO 200-201.

ECO 332 Public Finance (3,0,3) Determination of optimum level output and distribution of public goods with regard to revenues, expenditures, and debt management; proposals for tax reform, equity in governmental expenditures, and utility regulation. PREREQ: ECO 200-201.

ECO 340 International Economics (3,0,3) Theory of international trade and finance; commercial and financial policies; foreign exchange; international monetary institutions; policies of free and controlled trade; world economic planning. PREREQ: ECO 200-201.

ECO 342 Economic Development (3,0,3) Changing economic circumstances over time; measuring economic development; factors causing economic development; domestic and foreign saving and investment; human capital and productivity; trade policy; exporting; other factors affecting economic development. PREREQ: ECO 200-201.

ECO 344 Comparative Economic Systems (3,0,3) Economic systems in today's world, especially England, France, Germany, the former Yugoslavia, Russia, China, India, Iran, and Saudi Arabia. PREREQ: ECO 200-201.

ECO 350 Labor Economics (3,0,3) Analysis of the functioning of labor markets with theoretical, empirical, and policy applications in determination of employment and wages in the U.S. economy. PREREQ: ECO 200-201.

ECO 394 Topics: Economics (3,0,3) Specialized topics of faculty and student interest. May be repeated twice when topics vary. PREREQ: ECO 200 and 201.

ECO 494 Seminar in Economics (3,0,3) Capstone course for economics majors. Discussion and analysis of contemporary economic problems. Different topics offered each semester. Papers and written assignments ordinarily required. PREREQ: ECO 300-301.

ECO 499 Independent Study in Economics (1-3 sem. hrs.) Directed readings, independent research, or student projects on areas of individual academic interest; topics, meeting times, and outcomes arranged with instructor. PREREQ: ECO 200-201.

ECO 580 Economics for Teachers (1-3 sem. hrs.) A conceptual framework for the study of economics and overview relating to the basic economic problem, economic systems, resource allocation, economic growth and stability, economic institutions, and goals. Foundation course intended for classroom teachers with little or no background in economics. Open only to students majoring in education.

ECO 594 Topics: Teaching Economics (1-3 sem. hrs.) Strategies and activities for teaching economics and selected economic topics at the elementary and secondary levels; instructional resources and their effective use in the classroom; sample curriculum guides; curriculum development activities. May be repeated for credit when topics vary. Open only to students majoring in education.

**Master of Teaching**

EDMT 542 Methodology/Pedagogy in Middle School/Secondary Business/Marketing (3,0,3) Theories, methods/techniques and technologies in designing, delivering and evaluating instruction in middle school and high school business/marketing.

EDMT 543 Methodology/Pedagogy in Middle School/Secondary Science (3,0,3) Theories, methods/techniques and technologies in designing, delivering and evaluating instruction in middle school and high school science.

EDMT 544 Methodology/Pedagogy in Middle School/Secondary Math (3,0,3) Theories, methods/techniques and technologies in designing, delivering and evaluating instruction in middle school and high school mathematics. COREQ: EDMT 696.

EDMT 545 Methodology/Pedagogy in Middle School/Secondary Social Studies (3,0,3) Theories, methods/techniques and technologies in designing, delivering and evaluating instruction in middle school and high school social studies. COREQ: EDMT 696.

EDMT 599 Special Topics in Education (1-3 semester hours) Individual or group in depth study. PREREQ: consent of MAT coordinator.

**Educational Specialties**

**EDS**

EDS 322 Planning and Implementing Instruction for Students with Exceptionalities (2,0,2) Adapting classroom instruction to meet the needs of challenging students; collaboration skills for effective planning for inclusive practices. PREREQ: EDS 360 or PHE 500 or permission of instructor. COREQ: EDU 390 or EDU 391 or EDU 393.

EDS 360 Students with Exceptionalities in the Schools (2,0,2) Nature and needs of students with exceptionalities; overview of educational programming and legal issues in special education. PREREQ: PSY 100; COREQ: EDU 313, EDU 307 or EDU 309 or EDU 311.

EDS 362 Applied Behavior Analysis for Students with Disabilities (3,0,3) Principles of behavior analysis and research; classroom examples of behavior applications with students with disabilities. PREREQ: EDS 364. COREQ: EDS 464, EDS 472, and EDS 473.

EDS 364 Characteristics of Learning and Behavior Disorders (3,0,3) Nature and needs of students with learning or behavior disorders; factors to consider in providing appropriate educational programs. PREREQ: EDS 360.

EDS 464 Assessment of Learning and Behavior Disorders (3,2,4) Principles and procedures of assessment for placement of exceptional students; procedures for placement of exceptional students. PREREQ: EDS 360. COREQ: EDS 362, EDS 373, and EDS 472.

EDS 472 Special Education Methods and Materials (3,0,3) Materials, equipment, and methods for remediation of learning and behavior disorders; information on alternative special education environments. COREQ: EDS 362, EDS 364, and EDS 473.

EDS 473 Special Education Practicum (0,4,2) Experiences in application of assessment, behavior intervention, and instructional methods with students with learning and behavior disorders. COREQ: EDS 362, EDS 464 and EDS 472.

EDS 561 Mental and Orthopedic Disabilities (3,0,3) Characteristics and educational programs for students who have mental retardation or orthopedic and/or other health impairments. PREREQ: EDG 666 or EDS 360 or equivalent.

EDS 562 Early Childhood Special Education Programs (3,0,3) Special needs of handicapped preschool children; adapting preschool programs to accommodate handicapped children. PREREQ: EDS 360 or equivalent.
EDU 570 Working with Families of Students with Disabilities (3,0,3) Information, skills, and resources for effective interaction with parents and families of children with disabilities. PREREQ: EDS 362 and EDS 364, or equivalent.

EDS 572 Secondary Special Education Programs (3,0,3) Characteristics of adolescents with learning and behavior disorders; educational programming for secondary students with mild disabilities. PREREQ: EDS 360 or EDG 660 and EDS 561.

EDS 588 Professional Laboratory Experiences (3-6 sem. hrs.) Classroom field experience in added area of certification; individual project. PREREQ: completed coursework for certification; valid teaching certificate.

Education

EDU 204 Orientation to the Education Profession and Program (1,0,1) The purpose of this course is to explore the education profession and the programs in the College of Education and Human Services. The course is intended for anyone who is interested in becoming a teacher. The course will address the KY New Teacher Standards, the Teacher Education Handbook, various teaching fields, and contains a service learning component in a diverse educational setting. Required (or an education section of UNV 101) for application to the education program.

EDU 291W Advanced Writing in the Education Professions (3,0,3) Practice in a variety of expository forms; writing formal analytical essays; developing strong research skills; writing for several audiences and purposes; forms of writing common to needs of the education profession. A general education course (Written Communications II). PREREQ: ENG 101 and sophomore standing.

EDU 294 Special Topics: Education (3,0,3) This course will cover special topics and current issues in education. May be repeated for credit when topics vary.

EDU 300 Human Growth and Development (3,0,3) Life-span human development; physical, cognitive, social, and personal development especially as these relate to children in school and to the adults who influence them; individual study focusing on student development at specific levels of instruction. PREREQ: PSY 100. COREQ: EDS 360, EDU 305, EDU 313, and one of EDU 303, EDU 309, EDU 307, or EDU 311.

EDU 301 Young Child in School (3,0,3) Familiarization of prospective teachers with behavior and development of the young child in the classroom; development of activities, materials, methods, guidance, and parent relations; clinical and field experience. PREREQ: Junior standing.

EDU 302 Teaching of Reading (3,0,3) Nature of the reading process; scope and sequence of reading skills; plans for organizing classrooms for instruction. PREREQ: admission to the teacher education program. COREQ: EDS 322, and EDU 390, EDU 314, EDU 310.

EDU 303 Early Childhood Admission Practicum (0,2,2) Field experience for students planning to teach in Kentucky's high-risk birth-through-three programs (Kentucky's Early Intervention System) or in Kentucky's public school preschool programs, serving 3-to-5 year old children with and without disabilities; individual and group activities to assist students in making realistic career decisions. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA. COREQ: EDU 305 and EDU 313.

EDU 304 Reading and Writing Across the Curriculum: Middle Grades (3,0,3) Nature of the reading and writing process in the middle grades across the curriculum; theory, instructional methods, and materials. COREQ: EDU 318, and EDU 394.

EDU 305 Introduction to Education (2,0,2) Examination of teaching as a profession and of schooling as it currently functions in the U.S.; inquiry into contemporary educational theory and practice to assist students in making realistic career decisions. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA. COREQ: EDU 313; EDU 303 or EDU 307 or EDU 309 or EDU 311.

EDU 306 Teaching Elementary School Mathematics (3,0,3) Materials and methods for teaching problem solving, reasoning, communication, and connections of the concepts, skills, and relationships in elementary mathematics including number/computation, geometry/measurement, probability and statistics, and algebraic ideas. PREREQ: MAT 140 and MAT 141, each with minimum grade of C; satisfactory completion of professional semester I; admission to the teacher education program. PREREQ: STA 113 (or STA 205 if Math emphasis) successfully completed with minimum grade of C. COREQ: EDU 308, EDU 315, EDU 312 and EDU 392.

EDU 307 Admission Practicum for Elementary Grades (1,0,1) Field experience for students planning to teach in elementary schools; individual and group activities to assist students in making realistic career decisions. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA; approval of College of Education for enrollment in Admission Semester. COREQ: EDU 300, EDU 305, and EDU 313.

EDU 308 Teaching Elementary School Science (3,0,3) Skills and content of science within the framework of scientific method; concepts, methods, and materials. PREREQ: one biology course with lab and one physical science course with lab or SCI 110 and SCI 111 (each with a minimum grade of C); satisfactory completion of Professional Semester I; admission to the teacher education program. COREQ: EDU 306, EDU 315, EDU 312, and EDU 392.

EDU 309 Admission Practicum for Middle Grades (0,4,2) Field experience for students planning to teach in middle schools; individual and group activities to assist students in making realistic career decisions. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA. COREQ: EDU 300, EDU 305, EDU 313.

EDU 310 Teaching Language Arts in the Early Grades (3,0,3) Objectives, curriculum, and instructional materials. PREREQ: ENG 101 and ENG 102 or equivalent; satisfactory completion of Professional Semester I: admission to the teacher education program. COREQ: EDU 302, EDU 908, and EDS 322.

EDU 311 Admission Practicum for Secondary Grades (0,4,2) Field experience for students planning to teach in middle or secondary schools; individual and group activities to assist students in making realistic career decisions. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA; approval of College of Education for enrollment in Admission Semester. COREQ: EDU 300, EDU 305, and EDU 313.

EDU 312 Teaching Social Studies in the Early Grades (3,0,3) Objectives, curriculum, and instructional materials. PREREQ: 6 semester hours of history/geography; successful completion of Professional Semester I; admission to the teacher education program. COREQ: EDU 306, EDU 308, EDU 315, and EDU 392.

EDU 313 Computer Applications for Teachers (3,0,3) Introduction to uses of technology (including computers, Internet, etc.) in education; utilization of technology as a tool for teachers and students; instructional applications of word processing, databases, and spreadsheets; issues in ethics for technology; preliminary work on digital portfolios. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA; prerequisite of College of Education for enrollment in Admission Semester. COREQ: EDU 305, EDU 307 or EDU 309 or EDU 311.

EDU 314 Classroom Management (3,0,3) Recent research and theory related to planning, organizing, and managing student learning and behavior in the classroom. PREREQ: admission to the teacher education program. COREQ: EDU 390, EDU 302, EDS 322.

EDU 315 Educational Assessment (3,0,3) Concepts and principles of testing needed to select, construct, and interpret assessment instruments used in schools. PREREQ: admission to the teacher education program. COREQ: EDU 344, or EDU 324, or EDU 302.

EDU 316 Racism and Sexism in Educational Institutions (3,0,3) Role of educational institutions in perpetuating racism and sexism in the U.S.; how theories of prejudice, assimilation, feminism, and cultural reproduction explain patterns of social, cultural, political, psychological, and economic exclusion. A general education course (race/gender perspective).

EDU 317 Teaching Phonics (3,0,3) The course content focuses on phonics as part of reading instruction. Students use children’s literature to teach phonics in context. PREREQ: EDU 302. Requires admission to teacher education program.
EDU 318 Middle Grades and Secondary Classroom Climate Management (1,0,1) Recent research and theory related to developing, maintaining, and managing an effective middle grades classroom climate. PREREQ: Admission to the teacher education program. COREQ: EDU 304 and EDU 394 (middle grade education students) and EDU 393, 324, EDS, 322 (secondary education students).

EDU 324 Fundamentals of Secondary Education (2,0,2) Principles and strategies for effective secondary school teaching; curriculum planning, general teaching methods, and evaluation strategies; field based observation and teaching component. PREREQ: admission to the teacher education program. COREQ: EDU 393, EDU 318, EDS 322.

EDU 330 Teaching Science in the Secondary School (2,2,3) Principles and methods for teaching concepts, skills, and processes in accordance with national and state standards with emphasis on inquiry including design, implementation, assessment and evaluation, and reflection-on-practice strategies in connection with technology, meeting all students’ needs and integration across the curriculum. PREREQ: C or better in at least 24 credit hours which vary according to major.

EDU 331 Teaching Social Studies in the Secondary School (2,2,3) Principles and practices related to teaching social studies in accordance with KERA: basic social studies skills, professional content, and planning, implementing, and evaluating instruction; campus and field based experiences. PREREQ: admission to the teacher education program, or concurrently with admission semester.

EDU 333 Teaching Mathematics in the Secondary School (2,2,3) Principles and methods for teaching concepts, skills, and relationships in secondary mathematics in accordance with national and state standards including number/computation, geometry/measurement, probability and statistics, and algebraic ideas, and the appropriate use of manipulative and technology tools. PREREQ: admission to the teacher education program; MAT 120, MAT 220, and MAT 225 with a C or better.

EDU 334 Fundamentals of Middle Grades Education (2,0,2) Philosophy and learning theories forming the basis of the middle school program; curriculum and lesson planning, general teaching methods and motivation. PREREQ: admission to the teacher education program. COREQ: EDU 315 and EDU 391.

EDU 345 Teaching Language Arts in Middle Grades (3,0,3) Theory, content, and instructional strategies for teaching language arts in the middle-grades; field based observation and teaching component. PREREQ: 12 semester hours of language arts content courses with a grade of C or better chosen from English, Speech, or Journalism and admission to the teacher education program. COREQ: EDU 394 or equivalent.

EDU 346 Teaching Science in Middle Grades (2,2,3) Theory, content, and instructional strategies; field-based observation and teaching component. PREREQ: 12 semester hours science content of C or better chosen from biological and physical sciences (AST, CHE, GLY, PHY) or SCI 110 and 111; one of which must be CHE 105. COREQ: EDU 394 or equivalent.

EDU 347 Teaching Mathematics in Middle Grades (3,0,3) Principles and methods for teaching concepts, skills, and relationships in middle grades mathematics in accordance with national and state standards including number/computation, geometry/measurement, probability and statistics, and algebraic ideas, and the appropriate use of manipulatives and technology tools. PREREQ: at least 12 semester hours in mathematics including MAT 140 and MAT 141 each with a minimum grade of C; admission to Teacher Education Program, pursuance of middle-grades certification or extension in mathematics teaching area. COREQ: EDU 394 or the equivalent.

EDU 348 Teaching Social Studies in Middle Grades (3,0,3) Theory, content, and instructional strategies; field-based observation and teaching component. PREREQ: 12 semester hours of history, geography, economics, political science each with a minimum grade of C; pursuance of middle-grades certification in social studies teaching area; admission to the teacher education program.

EDU 390 Elementary Practicum I (0,2,1) Application of instructional theory to elementary classroom settings in reading, management, and assessment. PREREQ: admission to the teacher education program; successful completion of EDU 307. COREQ: EDU 302, EDU 314, EDS 322.

EDU 391 Middle Grades Practicum I (0,4,2) Application of instructional theory to middle-grade classroom settings in reading, writing, management, inclusion, and assessment. PREREQ: successful completion of EDU 309; admission to the teacher education program. COREQ: EDU 315, and EDS 322, EDU 344.

EDU 392 Elementary Practicum II (0,4,2) Practice in planning and implementing instructional strategies in early elementary classroom settings. PREREQ: successful completion of Elementary Practicum I. COREQ: EDU 306, EDU 308, EDU 315, and EDU 312.

EDU 393 Secondary Practicum I (0,4,2) Practice in planning and implementing instructional strategies with middle grades students. PREREQ: successful completion of Middle-Grades Practicum I. COREQ: EDU 304, appropriate methods course.

EDU 394 Middle Grades Practicum II (0,4,2) Practice in planning and implementing instructional strategies with middle grades students. PREREQ: admission to the teacher education program. COREQ: EDU 324.

EDU 395 Secondary Practicum II (0,4,2) Application of instructional theory to secondary classroom settings in management, assessment, and planning and implementing effective instructional strategies. COREQ: EDU 315.

EDU 491 Student Teaching with Early Childhood Endorsement (12 semester hours) Classroom experience through observation, planning and teaching supervised by an experienced teacher; eight-week assignment to an elementary classroom grades K-4; eight-week assignment to a special education program grades K-12. PREREQ: admission to early childhood education student teaching program.

EDU 492 Student Teaching in Elementary School with Special Education Endorsement (12 sem. hrs.) Classroom experiences through observing, planning, and teaching supervised by an experienced teacher; eight-week assignment to an elementary classroom grades K-4; seven-week assignment to a special education program grades K-12; three week assignment to a special education program grades K-12 in a diagnostic category and program plan other than the seven-week special education assignment.

EDU 493 Student Teaching in Middle Grades with Special Education Endorsement (12 sem. hrs.) Classroom experiences through observing, planning, and teaching under supervision of an experienced teacher: eight-week assignment to a middle grades classroom, grades 5-9; eight-week assignment to a special education program grades P-12. PREREQ: Admission to middle grades and special education student teaching program.

EDU 494 Student Teaching in Elementary School (12 sem. hrs.) Classroom experiences through observing, planning, and teaching under supervision of an experienced teacher; one-half semester assignment to each of two non-consecutive elementary classroom grades P-5. PREREQ: admission to the elementary education student teaching program.

EDU 495 Student Teaching in Middle Grades (12 sem. hrs.) Classroom experiences through observation, planning, and teaching under supervision of an experienced middle-grades teacher; grades 5-9. PREREQ: admission to the middle-grades student teaching program.

EDU 496 Student Teaching in Secondary School (12 sem. hrs.) Classroom experiences through observation, planning, and teaching under supervision of an experienced secondary teacher; full semester assignment to a secondary classroom, grades 8-12. PREREQ: admission to secondary student teaching.

EDU 497 Student Teaching in Secondary Education with Special Education (12 sem. hrs.) Classroom experiences through observing, planning, and teaching supervised by an experienced teacher; eight-week assignment in a secondary classroom grades 8-12; eight-week assignment to a special education program grades P-12.

EDU 498 Senior Seminar (2,0,2) Integration of theoretical foundations of education with student teaching experiences; inquiry into teaching, life in schools, and role of schools in American society. COREQ: EDU 490, EDU 492, EDU 494, EDU 495, or EDU 496.
EDU 504 Context, Policy, and Organization of Middle/Secondary Education in Society (4, 0, 4) Internal and external forces shaping the direction of education in America; school finance, school law, reform in education, multicultural education, historical antecedents, and philosophical undergirdings in education in America as related to contemporary educational theory and practice.

EDU 505 Behavior, Development, and Learning (3, 0, 3) Understanding of human development and behavior, the learning process, teaching models, and contemporary practices, procedures, and skills in the profession; obtaining information in these areas and applying it to the teaching process.

EDU 515 Instructional Design and Curriculum (3, 0, 3) Basics in formation and experiences regarding general curriculum theory and design for regular, exceptional, and multicultural students; visits to designated schools for practical application of curriculum and design.

EDU 519 Effective Teaching and Learning (3, 0, 3) Basic information and experiences in teaching and learning for middle/secondary teachers; teaching methods/strategies; research in teaching; classroom management, motivation, assessment, evaluation, and measurement; grading policies/procedures, communications, and technology.

EDU 530 Reading in Junior and Senior High School (3,0,3) Principles and procedures related to reading in grades 8-12; basic reading skills, study skills, content fields, and reading programs. For teachers of all subjects. Required of students seeking certification to teach English.

EDU 546 Teaching Environmental Education (3,0,3) Principles and goals, curriculum models, teaching strategies, classroom and community resources, outdoor education, and research. PREREQ: admission to the teacher education program, or concurrently with the admission semester.

EDU 550 Current Trends in Early Childhood Education (2,0,2) Review of research in early childhood education; types of early childhood programs; parent education; working with disadvantaged children; significant issues in early childhood education. COREQ: EDU 551 (for graduate credit).

EDU 551 Classroom Activities in Early Childhood Education (0,2,1) Activities and instructional resources appropriate for preschool children. COREQ: EDU 550 (for graduate credit).

EDU 564 Collaboration In Early Childhood Education (3,0,3) Multidisciplinary and transdisciplinary teaming; communication skills necessary for collaboration; cultural differences, assistive technology, curriculum, and environmental designs with regard to collaborative early childhood programs. PREREQ: EDS 562 or equivalent.

EDU 566 Assessment In Early Childhood Education (3,0,3) Relation of best practices in traditional and dynamic assessment to child development; determination of eligibility for services; participation in a collaborative, supervised assessment of one child; writing an assessment report, IEP, and IFSP using assessment data. PREREQ: EDS 562 or equivalent.

EDU 568 Administration and Supervision In Early Childhood Education (3, 0, 3) Development of policies and procedures for administration and supervision in diverse early childhood programs; identification of funding sources; inquiry into ethical behavior and development of personal code of ethics and supervisory skills; program model design. PREREQ: EDS 562 or equivalent.

EDU 594 Professional Laboratory Experiences (12 sem. hrs.) Student participation in peer teaching experiences on campus and in field-based situations; materials, methods, innovative programs, and curricula; completion of a 12-week experience in the classroom; inquiry into teaching and the role of schools in American society.

EDU 595 Special Topical Seminars (3-6 sem. hrs.) Student participation in professional development seminars; trends, program dimensions, current issues in education and in the profession, and other culminating experiences.

EDU 598 Orientation (1-6 sem. hrs.) Student participation in orientation experiences in alternative teacher certification program; procedures, policies, standards, and resources; certification and program requirements; administration of CTBS and NTE batteries of tests to course participants; development of portfolios, KTIP procedures, and KERA requirements.

EDU 599 Selected Problems in Education (1-3 sem. hrs.) Individual or group in-depth study. PREREQ: consent of chair.

Emergency Medical Technology

EMT 205 Emergency Medical Technology (4,4,6) Emergency care and transportation of the sick and injured, cardiopulmonary resuscitation, including cardiac defibrillation and advanced airway management skills, bleeding control, sprain and fracture immobilization, emergency childbirth, medical and environmental emergencies, advanced medication modalities, and vehicular extrication. Prepares students to take the National Registry of Emergency Medical Technician Basic examination.

Engineering Technology

EGT 116 Introduction to Industrial Materials and Processes (2,2,3) Fundamentals of materials, processing methods, tools, and equipment used to produce metallic and nonmetallic products; destructive and nondestructive testing.

EGT 161 Circuit Analysis (2,2,3) Basic laws and theories, voltages, current, power, and resistance; resistive circuits in direct current circuits; analysis and applications. Mesh and node equations used in circuit analysis. PREREQ: MAH 099.

EGT 211 Quality Control (3,0,3) Control and assurance of quality and reliability; management of quality function in the industrial setting.

EGT 212 Computer-aided Drafting and Design (CADD) (2,2,3) Fundamentals of computer aided drafting; production of technical drawings using CAD software; working drawings; standard machine elements; tolerance dimensioning.

EGT 261 Engineering Materials (2,2,3) Structures, properties, applications, and failure modes of materials, both metallic and non-metallic; heat treatment and processing effects on microstructure; introduction to chemical properties; principles and applications of destructive and non-destructive testing. PREREQ: CHE 120.

EGT 265 Manufacturing Processes and Operations (2,2,3) Principles and applications of precision machining, numerical control processes, volume production, assembly methodology, and advanced concepts in manufacturing operations are discussed. PREREQ: EGT 116.

EGT 300 Statistics and Strength of Materials (3,0,3) Theory and application of the mechanics of rigid bodies in equilibrium; mechanical properties of materials; stress; strain; torsion; shear force and bending moments; beam deflection; combined loading. PREREQ: MAT 120 or 121; PHY 211.

EGT 301 Cooperative Education in Engineering Technology (3 sem. hrs.) This course provides students an opportunity to apply the knowledge and skills they are learning in the classroom to an employment position in business or industry. It allows students to test and refine career plans and interests; gain experience in their field of specialty before they begin searching for a permanent position; and build a network of professional contacts from which they may draw technical and employment information. PREREQ: consent of instructor.

EGT 310 Project Management and Problem Solving (3,0,3) Industrial project management practices: project implementation methods; resource selection; risks and failures; project management tools and techniques related to manufacturing projects. Problem solving models; quantitative and qualitative decision making strategies, including economic analysis; ethical, environmental, and social issues; impact of creative thinking, critical thinking, and problem solving on the design and quality of products and services. PREREQ: junior standing.

EGT 316 Materials Processing and Fabrication (2,2,3) Theory and application of surface treatment, casting, fabrication, separating, joining, shaping, and reducing using a variety of industrial materials. PREREQ: EET 116 or IET 120.

EGT 318 Introduction to Nanotechnology (3,0,3) Introduction to nanotechnology, fabrication and characterization of nano-scale structures, properties of...
nanostructures, nanostructured materials, wires and dots, nanobiology/nanomedicine, nanomagnetics, nanotubes, nanoelectronics, and nanoelectromechanical systems. PREREQ: CHE 120.

EGT 320 Robotic Systems and Material Handling (2,2,3) Structure and operational characteristics; principles and theory of robot movement, robot teach/programming, program languages, robot arm, robot controller, work station. Material handling related to manufacturing, warehousing, type of equipment used and different concepts of material handling are covered. PREREQ: EGT 161.

EGT 321 Productivity Management, Scheduling & Planning (3,0,3) The integration of systems required to improve work flow through the system, scheduling and coordination of projects. Systems of time management and work simplification; analysis of manufacturing and production problems including purchasing, work methods, inventory, material handling, production planning, and cost analysis. PREREQ: MAT 121 and EGT 211.

EGT 340 Applied Dynamics (3,0,3) Theories and applications of dynamic mechanics, including Newton's Laws, work, kinetics, impulse, and momentum. PREREQ: EGT 300; MAT 120 or MAT 121; PHY 211.

EGT 341 Integrated Resource Management (3,0,3) This course utilizes the techniques of Enterprise Management. The course will focus on contrast and integration strategies, JIT techniques, integration, application and implementation. PREREQ: EGT 321.

EGT 343 A. C. Circuit Analysis (2,2,3) Application of basic electrical circuit analysis to alternating current (AC) systems; capacitors, inductors, transformers, and circuits using these components. Mesh and loop analysis, multiphase. PREREQ: EGT161 and MAT 121.

EGT 344 Analog Electronics (2,2,3) Introduction to solid state, diodes, bipolar and field effect transistors, small signal amplifiers; power amplifiers, voltage regulators, and active filters. PREREQ: EGT 161.

EGT 361 Fluid Power (2,2,3) Basic laws and concepts of fluid mechanics and their applications to fluid power circuits. PREREQ: MAT 120 or MAT 122; PHY 211.

EGT 365 Tool Design & Computer Numerical Control (2,2,3) Design and selection of mechanical elements such as fasteners, cams, jigs, fixtures, and tools, utilizing Computer Numerical Control methods. This course also provides the knowledge needed to set up and program most C/NC machines equipped with EIA languages. The general application of information will be discussed, along with practical training on C/NC machines. PREREQ: EGT 212 and 265.


EGT 386 Electro-Mechanical Instrumentation and Control (2,2,3) Introduction to the design of instrumentation and control systems. Study of thermal, mechanical, optical, and digital sensor operations and applications. Introduction to data acquisition systems. Laboratory experimentation involving the Programmable Logic Controls designing different logics to control devices and a selection of sensors to gather and utilize data from the equipment. PREREQ: EGT 161.

EGT 399 Independent Study: Engineering Technology (1-3,0,1-3) For advanced students seeking to study selected problems. PREREQ: consent of adviser.

EGT 404 Signals and Systems (3, 0, 3) Advanced circuit analysis techniques; time domain and frequency domain solutions; Laplace transforms; z-transforms; Fourier analysis; discrete-time systems. PREREQ: EGT 343 and MAT 221.

EGT 405 Metrology and Geometric Tolerancing (3,0,3) Metrology requirements and geometric tolerancing; calibration systems, gage studies, measurement elements, analysis and presentation of measurement data, quality implications. PREREQ: EGT 211 and EGT 212.

EGT 406 Industrial Electronics (2,2,3) Theory, analysis, and application of open and closed loop industrial control systems consisting of both analog and digital components; sensing circuits; transducers; electric motors; optoelectronics. Specification, selection, and design of industrial electronics systems and programmable logic controllers. PREREQ: EGT 344.

EGT 411 Quality Assurance and Auditing (3,0,3) Organizing and implementing the quality audit; types of audits; ISO 9000 quality standards; audit planning, execution, testing, reliability, and system appraisal. PREREQ: EGT 211.

EGT 412 Advanced CADD (2,2,3) CADD 3D features; customized and professional CADD techniques; advanced features. PREREQ: EGT 212.

EGT 417 Senior Research & Design in Engineering Technology (1,4,3) Preparation and proposal for the capstone project design in an area of student's primary program major. After the preparation and proposal is prepared, with permission from their advisors, students design, build, document, demonstrate, and present the results. Must be taken within three semesters of graduation, may be repeated up to 9 semester hours. PREREQ: senior standing.

EGT 423 Planning and Design of Industrial Facilities (1,4,3) Planning, estimating, designing, and modeling industrial facilities; management, personnel, production, aesthetics, and the environment. PREREQ: EGT 212.

EGT 450 Thermodynamics and Heat Transfer (2,2,3) Fundamentals of thermodynamics, first and second laws of thermodynamics, properties of liquids and gases; air-conditioning and refrigeration systems; power cycles; modes of heat transfer (conduction, convection, and radiation) and their applications in technology; computer simulations of thermodynamics and heat transfer processes. PREREQ: MAT 120 or MAT 122; PHY 211.

EGT 462 Finite Element Modeling (2,2,3) Fundamentals of Finite Element Modeling, creation of geometry, material selection and problem solving. The course focuses on FEA modeling techniques utilizing CAD/CAE software. PREREQ: EGT 412, EGT 340.

EGT 465 Automated Manufacturing Systems (2,2,3) Integrated manufacturing automation including CIM/FMS, system controls, fixed systems, robotics, and economics of automation. PREREQ: EGT 320 and EGT 365.

English

ENG 090 Writing Workshop (3,0,3) Practice in a variety of writing forms; selecting topics, working through the writing process, and conferring with instructor and peers. One additional hour per week of tutoring in the Writing Center required. Not applicable toward graduation. For students needing additional preparation for ENG 101. COREQ: LAP 090.

ENG 101 College Writing (3,0,3) Study and practice of essay writing; reading, writing, and analyzing expository prose. A general education course (written communications I). PREREQ: placement test, English ACT score as announced in current Schedule of Classes or ENG 090.

ENG 110 English for International Students I (3,0,3) Basic techniques of composition for foreign students. Preparation for ENG 101.

ENG 111 English for International Students II (3,0,3) May be taken as a continuation of ENG 110 or as a beginning course for more advanced students.

ENG 112 Audiolingual English I (3,0,3) Development of speaking ability and listening comprehension for foreign students; review of basic English sentence structure.

ENG 113 Audiolingual English II (3,0,3) May be taken as a continuation of ENG 112 or as a beginning course for more advanced students.

ENG 151 Honors Freshman Composition (3,0,3) An accelerated program of writing practice. Students study works appropriate to the humanities in a seminar setting. Enrollment limited to 15 per section. A general education course (written communications II). PREREQ: 24 or above on the current ACT or a comparable score on the enhanced ACT, or equivalent; evidence of writing proficiency; approval of department.

ENG 200 Introduction to Literature (3,0,3) Critical rather than historical approach; readings in fiction, poetry, and drama. A general education course (literature). PREREQ: ENG 101 or ENG 151 or equivalent.
ENG 201 Ideas in Literature (3,0,3) Works representing a variety of literary forms and reflecting a common theme or motif. Topics vary. A general education course (literature). PREREQ: ENG 101 or ENG 151 or equivalent and sophomore standing.

ENG 202 Survey of British Literature I (3,0,3) Anglo-Saxon period to the 18th century; emphasis on more important writers, with attention to their cultural background. Required for the major in English. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 203 Survey of British Literature II (3,0,3) Romantic period to the present; emphasis on more important writers with attention to their cultural background. Required for the major in English. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 206 Western World Literature I (3,0,3) Important works of continental European literature, in translation, from its origins to the Renaissance. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 207 Western World Literature II (3,0,3) Important works of continental European literature, in translation, from the Renaissance to the present; ideas, techniques, and influences. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 208 Survey of American Literature I (3,0,3) Beginnings to the Civil War. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 209 Survey of American Literature II (3,0,3) Civil War to the present. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 211 Survey of Women's Literature I (3,0,3) Writing from many genres by women of many cultures from antiquity through the 19th century. A general education course (literature or humanities). PREREQ: ENG 101 or 151 or equivalent.

ENG 212 Survey of Women's Literature II (3,0,3) Writing of many genres by women of many cultures from the early 20th century to the present. A general education course (literature or humanities). PREREQ: ENG 101 or ENG 151 or equivalent.

ENG 215 Greek and Roman Mythology (3,0,3) Survey of classical pantheon of gods and heroes and their development from early Greek civilization to imperial Rome; influence of classical mythology on later national literatures. PREREQ: ENG 101 or ENG 151 or equivalent and sophomore standing.

ENG 216 Studies in Non-western Literature (3,0,3) Mythology, poetry, drama, prose, and fiction selected from one or several non-western literatures (e.g., Chinese, Arabic, African, Indian, Japanese). Subject matter of course may vary. PREREQ: 3 semester hours of literature.

ENG 217 African American Literature to 1940 (3,0,3) Works by African American authors 1746-1940. Cultural, historical, and social issues with focus on development of field as a distinct tradition. A general education course (literature or race/gender). PREREQ: ENG 101, 151, or equivalent.

ENG 218 African American Literature 1940-present (3,0,3) Works by African American authors 1940-present. Cultural, historical, and social issues with focus on development of field as a distinct tradition. A general education course (literature, humanities, or race/gender). PREREQ: ENG 101, 151 or equivalent.

ENG 231 Introduction to Creative Writing (3,0,3) Creative writing, emphasis on composing fiction and/or poetry. PREREQ: ENG 101 or 151 or equivalent.

ENG 265 Literature and the Human Experience (3,0,3) Poetry, drama, and fiction as portrayals of the range and complexity of human experience from the perspectives of writers from many cultures and many ages. Designed for students in the English honors program. A general education course (literature or humanities). PREREQ: ENG 151.

ENG 266 Folklore and Literature (3,0,3) Introduction to folklore genres (e.g., myth, fairy tale, proverb, ballad) and their use or reiteration in written literature. A general education course (literature or humanities). PREREQ: ENG 101 or ENG 151 or equivalent and sophomore standing.

ENG 291 Advanced College Writing (3,0,3) Practice in a variety of expository forms. A general education course (Written Communications II). May not be used to meet requirements for the major in English. PREREQ: ENG 101 and sophomore standing.

ENG 300 American Women Poets (3,0,3) Lives and works of selected poets, including African-Americans. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 301 American Novel (3,0,3) Novels from various periods; techniques, ideas, and social implications. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 302 Literature and Film (3,0,3) The art of film and its relationship to literature; films shown are cinematic versions of literary texts or have special relationships to literature. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 303 British Novel (3,0,3) Selected novels from various periods; narrative technique, historical context, and social implications. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 304 Intro to Post-Colonial Literature (3,0,3) Fundamental concepts of Post-Colonial literature. A variety of literary forms and works by major post-colonial and diasporic writers. Issues of literary representation and canon formation during the late half of the twentieth century. Fulfills diversity requirement for the English major. PREREQ: 3 semester hours of literature.

ENG 305 American Women Writers (3,0,3) Works representing a variety of literary forms by American women writers, from the 17th through the 20th century. A general education course (humanities or literature). PREREQ: 3 semester hours of literature.

ENG 306 Multicultural American Literature (3,0,3) Study of writers in two or more ethnic American literatures; e.g., American Indian, African American, Asian American, and Latino. A general education course (literature or race/gender perspective). Meets English major diversity requirement. PREREQ: ENG 101, 151, or equivalent.

ENG 308 Shakespeare I (3,0,3) The early period, the English histories, the comedies, and Hamlet. A general education course (humanities or literature). PREREQ: 3 semester hours of literature.

ENG 309 Shakespeare II (3,0,3) Plays not studied in ENG 308, including the romances, satires, and tragedies. A general education course (humanities or literature). PREREQ: 3 semester hours of literature.

ENG 311 Tragedy (3,0,3) The tragic vision of life from its beginnings in Athens to the modern period; theories of tragedy; plays and novels that embody the tragic spirit. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 312 Comedy (3,0,3) Comic genres and techniques from ancient Greek comedy to recent films, novels, and plays; important theories of comedy. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 314 Modern European Literature in Translation (3,0,3) Art, ideas, and traditions in major literary works of the 19th and 20th century continental authors. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.

ENG 315 The Bible as Literature (3,0,3) Nonsectarian presentation of biblical history, ideas and literary forms and techniques. A general education course (humanities or literature). PREREQ: 3 semester hours of literature.

ENG 318 The Short Story (3,0,3) An historical, critical, and evaluative study of the short story as a distinct literary genre. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 320</td>
<td>Satire (3,0,3)</td>
<td>Techniques of the satirist and the development of satire, especially in prose. A general education course (literature or humanities). PREREQ: 3 semester hours of literature.</td>
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</tr>
<tr>
<td>ENG 322</td>
<td>Literature and Sexuality (3,0,3)</td>
<td>Literature and theory by writers who identify as lesbian, gay, bisexual, and/or trans-gendered or who represent these identities in literature. A general education course (literature or race/gender perspective). Fulfills diversity requirement for the English major. PREREQ: ENG 101, 151 or equivalent.</td>
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</tr>
<tr>
<td>ENG 331</td>
<td>Persuasive Writing (3,0,3)</td>
<td>Theory and practice of contemporary and classical persuasion; analysis of professional writing and student themes. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 332</td>
<td>Fiction Writing (3,0,3)</td>
<td>Techniques of short story, novelette, novel, and drama; in-class analysis of student work and the subsequent revision, reevaluation, and marketing of student writing. PREREQ: ENG 231.</td>
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<tr>
<td>ENG 334</td>
<td>Poetry Writing (3,0,3)</td>
<td>Practice in techniques of writing poetry; in-class analysis of student poems and the subsequent revision, reevaluation, and marketing of student work. PREREQ: ENG 231.</td>
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<tr>
<td>ENG 340</td>
<td>Business Writing (3,0,3)</td>
<td>Practical experience in business writing: proposals, resumes, letters, reports, and memorandum. For those considering or pursuing careers in law or other professions involving the writing of contracts and legal documents. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 345</td>
<td>Legal Writing (3,0,3)</td>
<td>The writing of legal arguments; logical reasoning, clarity, conciseness, grammar, punctuation. For those considering or pursuing careers in law or other professions involving the writing of contracts and legal documents. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 347</td>
<td>Technical Writing (3,0,3)</td>
<td>Principles and techniques of technical writing, including proposals, lab reports, job applications, graphics, and feasibility studies. Recommended for students in sciences, public administration, social services, industry, and health and computer fields. Prepares students for cooperative writing internships in industries or agencies. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 348</td>
<td>Professional Editing in the Workplace (3,0,3)</td>
<td>Theoretical and practical grounding in professional workplace editing as an evolving profession. Design, edit, and manage complex workplace documents using both manual means and industry-standard software. PREREQ: ENG 291 or equivalent with C or better.</td>
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<tr>
<td>ENG 349</td>
<td>Web Writing for the Professions (3,0,3)</td>
<td>Theoretical and practical grounding in analyzing, planning, and implementing web-based publications, including integration of textual/visual materials and use of industry standard Internet publishing tools. Students will learn to assess client needs and test site usability by creating several web pages, including a multi-layer website for a real-world client. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 350</td>
<td>Literary Criticism (3,0,3)</td>
<td>Introduction to the practice of literary criticism. Various critical approaches to be introduced and applied to works of early and late periods of literature. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 353</td>
<td>Contemporary American Novel (3,0,3)</td>
<td>Themes and techniques of particular importance in contemporary American novels. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 355</td>
<td>Women's Autobiographical Writing (3,0,3)</td>
<td>Reading, writing about, and editing for publication women's personal writing: journals, autobiographies, and autobiographical fiction, including that done by minorities and Third World women. PREREQ: 3 semester hours of literature.</td>
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<tr>
<td>ENG 357</td>
<td>Biographical Writing (3,0,3)</td>
<td>Reading, writing about, and writing biography; theory, practice, and analysis of biography as literary genre. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 358</td>
<td>Writing in Creative Genres (3,0,3)</td>
<td>Principles and techniques of creative writing in a specialized genre such as children's creative non-fiction, fantasy, dramatic, etc.; in-class analysis of student work with subsequent revisions. May be repeated for credit when genre changes. PREREQ: ENG 231.</td>
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<tr>
<td>ENG 359</td>
<td>Writing in Workplace Genres (3,0,3)</td>
<td>Principles and techniques of workplace writing in a specialized genre, such as business report writing, manual writing, grant writing, proposal writing, etc. In-class analysis of student work with subsequent revisions. Repeatable for 3 credit hours when genre changes. PREREQ: ENG 291 or equivalent.</td>
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<tr>
<td>ENG 362</td>
<td>Studies in Dramatic Literature (3,0,3)</td>
<td>Study of various periods and kinds of dramatic literature. May be repeated when topics vary. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 365</td>
<td>American Folklore (3,0,3)</td>
<td>Folk narrative, poetry, songs, customs, beliefs, etc., of regional, ethnic, and occupational groups across the U.S.; methods of collecting, classifying, and studying folklore. PREREQ: ENG101 or ENG 151 or equivalent and sophomore standing.</td>
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<tr>
<td>ENG 366</td>
<td>Studies in Literary Genres (3,0,3)</td>
<td>Study of one or more genres from various periods and cultures; techniques, structures, sub-genres, and themes. May be repeated as topics vary. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 371</td>
<td>Traditional Grammar (3,0,3)</td>
<td>This course provides an understanding of sentence parts and patterns, punctuation, usage, and sensitivity to style. Such instruction in traditional grammar can help students (a) write correctly and effectively, (b) apply logical thinking, (c) become wise analysts of texts, and (d) teach others conventional uses of language. PREREQ: ENG 101 or ENG 151 with a grade of C or better.</td>
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<tr>
<td>ENG 380</td>
<td>Studies in Literature and Other Arts (3,0,3)</td>
<td>Literary works compared with musical compositions, with paintings, or with both music and painting. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 381</td>
<td>Introduction to Linguistics (3,0,3)</td>
<td>Methods of analyzing language. Satisfies the linguistics requirement for English majors seeking secondary certification. PREREQ: 6 semester hours of English; junior standing.</td>
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<tr>
<td>ENG 382</td>
<td>History of the English Language (3,0,3)</td>
<td>Development of English from Indo-European to the present; internal and external influences resulting in change. Satisfies the linguistics requirement for those seeking secondary certification in English. PREREQ: 6 semester hours of English; junior standing.</td>
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<tr>
<td>ENG 384</td>
<td>Modern Poetry (3,0,3)</td>
<td>Prosodic theory; practice in interpretation of poetic texts. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 385</td>
<td>Teaching of English I (3,1,3)</td>
<td>Combination of theoretical and practical problems in the teaching of writing and grammar. Required of all students majoring in English who seek secondary certification. PREREQ: admission to teacher education program or valid secondary teaching certificate.</td>
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<tr>
<td>ENG 386</td>
<td>Children's Literature (3,0,3)</td>
<td>For students seeking provisional certification in elementary education. PREREQ: 3 semester hours of literature.</td>
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<tr>
<td>ENG 387</td>
<td>Teaching of English II (3,0,3)</td>
<td>Combination of theoretical and practical problems in the teaching of literature. Required of those seeking secondary certification in English. PREREQ: admission to teacher educational program or valid secondary teaching certificate.</td>
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<tr>
<td>ENG 396</td>
<td>Internship: Editing I (3,0,3)</td>
<td>Introduction to evaluation of manuscripts, proofreading, copy editing, and other responsibilities of journal editing under supervision of faculty sponsor. May not be used to meet requirements for the major in English. PREREQ: 291 or equivalent.</td>
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<tr>
<td>ENG 401</td>
<td>Chaucer (3,0,3)</td>
<td>Close reading of The Canterbury Tales; selections from Troilus and Criseyde and the minor works. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.</td>
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<tr>
<td>ENG 402</td>
<td>Middle English Literature (3,0,3)</td>
<td>Advanced survey of British literature in Middle English, excluding Chaucer; lyrics, Langland's Piers Plowman, works of the Pearl poet, and selected prose writers. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.</td>
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</tbody>
</table>
ENG 403 Old English (3,0,3) Language and literature of Anglo Saxon England. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 404 Arthurian Literature (3,0,3) Advanced study of medieval origins of the legend of King Arthur. May also consider post-medieval transmission of the Arthurian tradition in literary texts, film, etc. Pre-1800 British Lit credit. PREREQ: 6 semester hours of literature.

ENG 411 Elizabethan Literature (3,0,3) The period of Marlowe, Sidney, Spenser, and Shakespeare. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 412 English Renaissance Drama (3,0,3) Dramatic works written in Elizabethan and Jacobean England. PREREQ: 6 semester hours of literature.

ENG 414 Non Shakespearean Elizabethan Drama (3,0,3) Shakespeare's predecessors and contemporaries. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 416 Studies in Renaissance Literature (3,0,3) Works reflecting a common topic, genre, or literary movement. May be repeated for credit when content varies. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 420 Pre 1800 Exploration/Travel Literature (3,0,3) Comparative study of the rhetoric, contexts, and uses of pre-1800 exploration and travel narratives, particularly those depicting cross-cultural encounters and non-western landscapes. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 421 Restoration and Eighteenth Century Literature (3,0,3) Significant works of literature written between 1660 and 1798; satire, comedy of manners, novel, and poetry in the context of social backgrounds. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 422 Studies in Eighteenth Century Literature (3,0,3) Ideas and themes in several works, or in a single major writer, or in a circle of writers; content varies. May be repeated for credit when content varies. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 425 Eighteenth Century British Novel (3,0,3) Critical approaches to selected novels by British authors ranging from Daniel Defoe and Samuel Richardson to Frances Burney and Jane Austen; novelistic modes such as picaresque, epistolary, gothic, and novel of manners. Pre-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 431 Screenwriting (3,0,3) Analysis of professional and student screenplays; completion of a script for feature length film, episode of a contemporary TV show, adaptation of a novel or short story, docudrama, or documentary film. PREREQ: ENG 231 or equivalent.

ENG 432 Novel Writing (3,0,3) Explores the particular requirements of the novel form. Examines the creation of effective characterization, setting, themes and plots. Demands substantial reading, writing, and outside research. PREREQ: ENG 231.

ENG 442 Studies in British Literature Since 1775 (3,0,3) Works reflecting a common theme, genre, or literary movement. May be repeated for credit when topics vary. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 451 Romantic Literature (3,0,3) Genius, originality, irony, Christianity, nature, symbol, and myth in major romantic poets. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 452 Victorian Literature (3,0,3) Poetry, fiction, prose, and myth in the age of Tennyson, Hardy, Carlyle, and Eliot. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 453 Nineteenth/Twentieth Century Ideas (3,0,3) Revelation in Romantic poetry to disintegration in mid-century British fiction. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature; PHI 150 recommended.

ENG 454 Nineteenth Century British Novel (3,0,3) Aesthetic and analytical approach to major British novels of the 19th century. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 461 Nineteenth Century American Literature (3,0,3) Major authors of 19th century American fiction, essays, and poetry. May be repeated once for credit when topics vary. Pre-1900 Am Lit credit. PREREQ: 6 semester hours of literature.

ENG 462 Modern American Literature (3,0,3) Trends in form and content in 20th century American writing. May be repeated once for credit when topics vary. PREREQ: 6 semester hours of literature.

ENG 463 Studies in Regional American Literature (3,0,3) Various regional literatures, e.g., those of Kentucky and southern Appalachia. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature or consent of instructor.

ENG 464 Studies in American Literature (3,0,3) Works reflecting a common theme, genre, era, or literary movement. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature.

ENG 465 Southern Women Writers (3,0,3) Selected fiction by southern women writers from Kate Chopin to Flannery O'Connor, including African-Americans. Myth versus reality of the southern lady and patterns of women's lives presented in fiction of the late 19th and 20th century South. PREREQ: 6 semester hours of literature.

ENG 466 Focus on United States Civilization (3,0,3) Topics for interdisciplinary study, e.g., the 1890s, the 1920s the 1930s, British views of America, political movements, ideological trends, and 19th century ideas. PREREQ: 6 semester hours of literature.

ENG 467 Topics: African American Literature (3,0,3) Various periods and kinds of African American literature; issues of ethnicity/race and sex/gender; cultural, political, economic, and social issues. Fulfills diversity requirement for English major. May be repeated when topics vary. PREREQ: 3 semester hours of literature.

ENG 470 Twentieth Century British Novel (3,0,3) Aesthetic and analytical approach to major British novels of the 20th century. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 471 Thomas Hardy and D. H. Lawrence (3,0,3) Study of the fiction and poetry as critical profiles of the Victorian past and as reflections of our own ways of thinking and seeing. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 472 Studies in British Modernism (3,0,3) Literature by such major authors as Woolf, Eliot, Yeates, and Joyce and their circles, and selected movements defining British Modernism, 1910 to 1950; disillusionment with Victorian values; impact of World War I; innovation in aesthetic form. May be repeated for credit when topics vary. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 473 Studies in Contemporary British Literature (3,0,3) Post-1950 British Literature by selected authors, reflecting aesthetic, social, political, intellectual, and economic trends. May be repeated once for credit when topics vary. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 474 Studies in Postmodern Literature (3,0,3) Twentieth-century literature written primarily after WWII and representing a conscious attempt to move beyond the modes and themes of the High Modernists. May be repeated once for credit when topics vary. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 475 Post-Colonial Literature and Theory (3,0,3) Development of major themes, techniques, and theories of post-colonial writing, including issues of appropriation, literary hybridity, cultural hegemony, and Otherness. Post-1800 Brit Lit credit. Fulfills diversity requirement for the English major. PREREQ: 6 semester hours of literature.

ENG 477 Irish Literary Renaissance (3,0,3) Works associated with the Irish Literary Renaissance (1880-1939), a movement dedicated to creating a literature based on Irish history, legend, and folklore. Writers may include Yeates, Joyce,
Syngre, Gregory, O’Casey. Post-1800 Brit Lit credit. PREREQ: 6 semester hours of literature.

ENG 485 Studies in Literary Theory (3, 0, 3) A particular theoretical approach, issue, or problem. May be repeated for credit when content varies. PREREQ: 3 semester hours of literature.

ENG 494 Senior Seminar (3,0,3) Intensive study of a specific topic or problem. PREREQ: 6 semester hours of literature.

ENG 496 Internship: Editing II (3,0,3) Editorial duties associated with production of department and university publications under supervision of faculty sponsor. May not be used to meet requirements for the major in English. PREREQ: ENG 396 or equivalent.

ENG 496 Internship: Writing Pedagogy (3,0,3) Intended for students majoring in English who are interested in strategies for teaching writing on the university level; peer tutoring of student writing under supervision of a faculty sponsor. May not be used to meet requirements for the major in English. PREREQ: junior standing and consent of instructor.

ENG 497 Project: Writing (1-3,0,1-3) Independent study for advanced students undertaking projects in creative, expository, or journalistic writing. May be taken twice for a total of 6 semester hours. PREREQ: written consent of a full-time member of the Faculty of Literature and Language.

ENG 499 Independent Study of American Literature (1-3,0,1-3) Open to outstanding students. PREREQ: 6 semester hours of literature and consent of instructor.

ENG 499 Independent Study of British Literature (1-3,0,1-3) Open to outstanding students. PREREQ: 6 semester hours of literature and consent of instructor.

ENG 500 Poetry (3,0,3) Advanced study of poetry. May be repeated for credit when topics vary. PREREQ: 6 semesters of literature at the undergraduate level or graduate standing.

ENG 501 Drama (3,0,3) Advanced study of dramatic literature. May be repeated for credit when topics vary. PREREQ: 6 semesters of literature at the undergraduate level or graduate standing.

ENG 505 Medieval Literature (3,0,3) Advanced study of literature from the Medieval period. May be repeated once for credit when topics vary. PREREQ: 6 semesters of literature at the undergraduate level or graduate standing.

ENG 515 Renaissance Literature (3,0,3) Advanced study of literature from the Renaissance. May be repeated once for credit when topics vary. PREREQ: 6 semesters of literature at the undergraduate level or graduate standing.

ENG 525 Restoration and 18th-century Literature (3,0,3) Advanced study of Restoration and 18th-century literature. May be repeated once for credit when topics vary. PREREQ: 6 semesters of literature at the undergraduate level or graduate standing.

ENG 530 Readings in the English Language (3,0,3) Topics about the language and its use: specialized readings, applications, and theories. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature at the undergraduate level.

ENG 531 English Grammar for Teachers of ESOL (2,0,2) Review of English grammar from pedagogical point of view. Does not count toward English major. PREREQ: 6 semester units of literature and consent of instructor.

ENG 540 Problems in English (3,0,3) Pedagogical topics such as rhetoric, literary analysis, and evaluation of student work; topics suitable for elementary and secondary teachers. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature at the undergraduate level.

ENG 541 Linguistics for Teachers of ESOL (2,0,2) Overview of linguistics for teachers of ESOL. Does not count toward English major. PREREQ: 6 semester units of literature and consent of instructor.

ENG 556 Composition/Rhetoric Theory and Pedagogy (3,0,3) Advanced study in composition/rhetoric. May be repeated for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

ENG 560 American Literature Before 1865 (3,0,3) Advanced study of American literature written before 1865. May be repeated once for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

ENG 565 American Literature After 1865 (3,0,3) Advanced study of American literature written after 1865. May be repeated once for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

ENG 575 20th Century British Literature (3,0,3) Advanced study of British literature written in the twentieth century. May be repeated once for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

ENG 580 Studies in Literature (3,0,3) Special topics in literature; genres, interdisciplinary subjects, individual authors. May be repeated for credit when topics vary. PREREQ: 6 semester hours of literature at the undergraduate level.

ENG 581 Major Authors (3,0,3) Advanced study of one or more major literary authors. May be repeated for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

ENG 582 Special Topics (3,0,3) Advanced study of special topics in literary studies. May be repeated once for credit when topics vary. PREREQ: six semesters of literature at the undergraduate level or graduate standing.

Entrepreneurship

ENTP 150 Overview of Accounting (3,0,3) Introduction to financial information generated by typical business organizations, with special emphasis on the use and interpretation of this information in managerial and financial decision-making processes by entrepreneurs. Enrollment priority given to ENTP minors. May not be substituted for ACC 200. ENTP 150 will be waived for students who have credit for ACC 300 and ACC 201. Same as ACC 150.

ENTP 200 Introduction to Entrepreneurship (3,0,3) Overview course using applied learning to introduce students to entrepreneurship. Open to students not certified as business majors.

ENTP 250 Fundamentals of Management and Marketing (3,0,3) Introduction of basic concepts, applications and techniques of management and marketing in organizations. Open to students not certified as business majors.

ENTP 300 New Venture Creation (3,0,3) This course presents an overview of entrepreneurship. During the semester we will examine entrepreneurs and the entrepreneurial mindset; learn to recognize and create opportunity; develop and test the business concept; assess the industry and analyze risks associated with customers, markets, financial considerations and legal concerns. Students will come away with a clear understanding of what entrepreneurship is and how they can use the entrepreneurial mindset to succeed in their chosen career. PREREQ: junior standing.

ENTP 333 New Venture Management (3,0,3) As an integrative course in management; this class emphasizes managing growing companies in an increasingly professional manner, while maintaining a spirit of entrepreneurship. Topics will include strategic and operational planning, financial planning and measuring and controlling performance; managing innovation, marketing the entrepreneurial organization, managing human resources in rapidly growing firms, and exit strategies. PREREQ: ENTP 300.

ENTP 375 Marketing Strategies for Entrepreneurial Businesses (3,0,3) A strategic marketing process approach will be illustrated emphasizing the design of entrepreneurial marketing plans; the innovation and new product or service process; implementation of product, price, place and promotion goals; and, methods of evaluation and control. PREREQ: ENTP 150 or ACC 200, ENTP 300.
ENTP 376 New Venture Financing (3,0,3) Many new ventures and innovation fail due to inadequate funding. Major sources of funding for new ventures are reviewed and evaluated in this course, including: venture capital, informal investors, banks, investment banks, suppliers, buyers and the government. Some of the topics for this course include valuation, “guerrilla financing,” joint ventures, strategic alliances, private placements, IPOs and management buyouts. PREREQ: ENTP 300.

ENTP 377 Family Business Management (3,0,3) This course provides an overview of the importance of family firms and the unique problems and opportunities they face. Family businesses represent the interests of two distinct, yet overlapping institutions: the firm and the family. Actual family business case studies are used to examine these issues. Family business owners serve as invited speakers. PREREQ: ENTP 300.

ENTP 378 Emerging Enterprise Law (3,0,3) This course involves the study of legal issues surrounding emerging enterprises, including, new venture formation, choice of legal entity, financing, siting and leases, intellectual property, debtor-creditor relations, contracts and employment law. PREREQ: ENTP 300.

ENTP 405 Corporate Entrepreneurship (3,0,3) This course is designed to explore the concepts of change, innovation, and corporate venturing. Issues associated with entrepreneurial behavior and the development and implementation of programs to encourage entrepreneurship (creating value through innovation) in midsize and large firms are explored. PREREQ: ENTP 300.

ENTP 496 Entrepreneurial Internship (3,0,3) Students will intern at a nascent or early stage business venture that will provide the student an opportunity to learn to apply entrepreneurial problem solving skills and theoretical knowledge obtained through coursework to actual business situations and problems. The student should plan on spending a minimum of 10 hours per week for 10 weeks at the internship. PREREQ: ENTP 333 and senior standing, certification of major in business or declared minor in ENTP.

ENTP 497 Senior Portfolio: Writing the Business Plan (3,0,3) Students will study the basic components and varied audiences for the business plan. Each student will write a business plan and will be required to present the plan to a panel of business leaders. PREREQ: ENTP 150 or ACC 200 and 201, and ENTP 333; senior standing and certification of major in business or declared minor in ENTP.

ENTP 499 Independent Study: Entrepreneurship (1-3 sem. hrs.) Students pursue a topic or project of interest to them. Meeting times arranged with instructor. Open only to students certified as majoring in business or by consent of instructor. PREREQ: ENTP 300, senior standing and certification of major in business or declared minor in ENTP.

Environmental Science
ENV

ENV 110 Introduction to Environmental Science (3,0,3) A non-laboratory introduction to the basic tenets of Environmental Science and Environmental Issues including the biological and physical components of ecosystems, the impact of resource development, management and pollution on the functionality of ecosystems and the well being of the living community, and the economic, political and legal aspects of environmental decision making. A requirement for entry into the Environmental Science program. A general education course (natural science).

ENV 115 Orientation to Environmental Science Careers (0,1,1) An introduction to environmental careers and post-graduate options. Activities will include visits to local businesses, corporations, agencies, and organizations specializing in environmental work.

ENV 255 Literature and Research (3,0,3) Information retrieval and presentation, introduction to environmental literature. Scientific methodology including research problem selection, experimental design, literature survey, and proposal development. A course for the sophomore year. PREREQ: BIO 151 and ENV 110.

ENV 350 Environmental Toxicology (3,0,3) A non-laboratory course designed for the junior year covering the principles of environmental toxicology. The content focuses on properties of toxic chemicals that influence their distribution and transformation in the environment; action of environmental forces that affect toxicant breakdown, movement, and accumulation; sources and occurrences of major classes of environmental toxicants, and risk assessment. PREREQ: BIO 304, BIO 304L and CHE 311.

ENV 380 Field Methods in Environmental Sciences (2,0,2) This is a laboratory and field course designed to expose students to the methods of data and sample collection most commonly used in environmental sciences. Due to the variable nature of sampling and analytical techniques, this course will meet 4 hours per week. During laboratory exercises this will be 2 hours twice weekly; during field sampling this will be 4 hours on a Saturday.

ENV 396 Internship: Environmental Science (3,0,3) Experiential learning at institutions, universities, or businesses specializing in Environmental work. Course may be repeated for new internship project; up to 6 semester hours may be earned in this course. Open only to students majoring in Environmental Science. PREREQ: permission of instructor.

ENV 400 Seminar: Environmental Science (1,0,1) Discussion and analysis of current environmental problems. For juniors and seniors majoring in environmental science or minorin in environmental studies.

ENV 492 Directed Research in Environmental Science (1-3 semester hours) Development and completion of a research project chosen in conjunction with instructor and approval of environmental science director. Final project report is required. Up to 6 semester hours may be earned in this course. For students majoring in environmental science. Fall, Spring, Summer. PREREQ: ENV 255 and permission of instructor.

ENV 494 Topics: Environmental Science (1,0,1) Discussion and analysis of current environmental problems. For junior and senior students major/minor in environmental science. Spring.

ENV 494 Special Topics: Environmental Science (1-3 sem. hrs.) Special training in Occupational Safety and Health Administration (OSHA) regulations, hazardous material handling, radiation safety, chain of custody of data, reports and samples, rapid bioassessment techniques, etc. Topics and number of hours credited will vary according to course availability, interest and need of students. These topics may be taught by agencies/employees outside the university. The nature of the material requires a flexible schedule and courses may actually occur as 40 hours during one week. A schedule and description of material will be made available during priority registration. Summer. PREREQ: ENV 340.

ENV 578 Environment Issues for Educators (1,4,3) Information and application of environmental issues for classroom use. Interrelationship of local issues and global issues. Required field trips. PREREQ: Permission of instructor.

Finance
FIN

FIN 205 Personal Financial Management (3,0,3) Practical and realistic methods to manage personal finances effectively; buying and selling, negotiating, investing, insuring, and planning; valuing stocks and bonds; retirement investing and buying insurance for property and self. PREREQ: sophomore standing.

FIN 305 Principles of Finance (3,0,3) Basic concepts in finance including security markets, interest rates, taxes, risk analysis, time value of money, security valuation, short term financial planning, capital budgeting, and capital structure. PREREQ: ACC 205 or ACC 200-201, STA 212, and junior standing.

FIN 315 Financial Management (3,0,3) Financial management concepts relating to dividend policy, capital structure theory, working capital management, common stock and bond issuance, hybrid financing, mergers, and acquisitions. PREREQ: FIN 305.

FIN 320 Financial Planning Process and Taxation (3,0,3) Practical approach to basic tax structure pertaining to individuals and businesses and its importance in financial planning; individual financial planning decisions and their tax implications. PREREQ: FIN 205, FIN 305, and junior standing.

FIN 325 Capital Budgeting (3,0,3) Principles of capital budgeting applied to project evaluations in a case study environment; decision making under certainty and uncertainty, ranking techniques, cost of capital estimation, and hurdle
rates; abandonment decision; leasing alternative; role of capital budgeting in the strategic decision making process of the firm. PREREQ: FIN 305.

FIN 335 Working Capital Management (3,0,3) Management of short term assets and liabilities; determining the optimal holdings of cash, inventory, and accounts receivables as well as their financing; cases used extensive use of cases to relate concepts to actual decisions made by firms. PREREQ: FIN 305.

FIN 345 Investment and Security Analysis (3,0,3) Structure and regulation of security markets, capital market theory, portfolio theory, analysis of securities and opportunities, evaluation of portfolio goals, sources of investment information, and introduction to derivatives. PREREQ: FIN 305.

FIN 355 Principles of Risk Management and Insurance (3,0,3) Fundamental principles of risk and insurance; applications to risk situations and pension and group insurance. PREREQ: FIN 305.

FIN 365 Financial Markets and Institutions (3,0,3) Advanced coverage of financial markets and institutions and their role in the history of the US financial system. Coverage includes a discussion of financial market history, interest rate theory, financial and currency derivatives, international implications for financial markets and institutions and current topics. PREREQ: FIN 305.

FIN 375 Commercial Bank Management (3,0,3) Management processes and operations in commercial banks; economic significance of the commercial bank industry and its contribution to business development. PREREQ: FIN 305.

FIN 385 Financial Planning Process and Estate Planning (3,0,3) Theoretical and practical approach to estate planning; estate and gift taxes, wills, trusts, and estate planning techniques and application of these techniques in overall financial planning. PREREQ: FIN 205, FIN 305, and junior standing.

FIN 394 Topics: Finance (3,0,3) Specialized topics of faculty and student interest. Topics vary and may include advanced derivative securities, financial engineering, advanced corporate finance, advanced financial planning, financial ethics, and risk management. May be repeated for a maximum of 6 semester hours if topics differ. PREREQ: FIN 305, and junior standing.

FIN 405 Derivative Securities (3,0,3) Definition and explanation of various risk transfer devices such as options involved in trading these securities, hedging and speculating with options and futures, supervision, regulation, and tax consequences of futures and options trading. PREREQ: FIN 305; certified major in any business program.

FIN 415 International Finance (3,0,3) Financial decision making process in a multinational environment, effects of devaluation expectations, foreign exchange, investment controls; case study materials related to actual decisions by multinational firms. PREREQ: FIN 305; certified major in any business program.

FIN 435 Case Studies in Corporate Finance (3,0,3) Analysis of finance problems through use of case studies; oral and written presentations of case solutions. PREREQ: FIN 305, FIN 315, senior standing and certified major in any business program.

FIN 445 Retirement Planning and Employee Benefits (3,0,3) Concepts of retirement planning and employee benefits and the application of these concepts to overall financial planning for individual and businesses. PREREQ: FIN 320 and certified major in any business program.

FIN 450 Advanced Investment Analysis (3,0,3) An in depth continuation of the material begun in FIN 345. The course will cover valuation models, portfolio formation, options and futures markets, security selection techniques and financial statement analysis. PREREQ: FIN 345.

FIN 499 Independent Study: Finance (3,0,3) Student investigation of a topic or completion of a project. Topics, meeting times, and outcomes arranged with instructor. PREREQ: FIN 305, FIN 315, certified major in any business program, and consent of instructor.
FRE 481 Topics in French Literature (3,0,3) Topics in literature, literary history, and literary theory. May be repeated for credit when topics vary. PREREQ: 6 semester hours of French at the 300 level or above or consent of instructor.

FRE 499 Independent Study: French (1-3,0,1-3) Readings in language and literature; readings in scientific literature. PREREQ: consent of instructor.

FRE 520 Readings in French (3,0,3) Various literary, linguistic, cultural, and pedagogical topics. May be repeated for credit when topics vary. PREREQ: 300-level French course.

Geography GEO

GEO 100 Elements of Geography (3,0,3) The role of geography in understanding one's environment; description and analysis of spatial patterns of cultural, urban, economic, social and political phenomena. A general education course (social sciences).

GEO 101 World Regional Geography (3,0,3) The world's regions; settlements, resource use, culture groups, and political patterns. A general education course (social sciences).

GEO 102 Geography of the World's “Developed” Regions (3,0,3) Anglo-American, Europe, the former Soviet Union, Japan, Australia, and New Zealand.

GEO 103 Geography of the Third World (3,0,3) “Under-developed” countries; culture areas and economic regions in Africa, Latin America, and Asia. A general education course (social sciences).

GEO 107 Diversity Mapped (3,0,3) Regional and local patterns of race/ethnicity and gender of the U.S.; social, economic, and political factors that underlie these patterns; basic skills in reading and analyzing thematic maps. A general education course (social sciences).

GEO 108 Introduction to Physical Geography (3,0,3) Physical phenomena of the environment; patterns of energy and moisture endowments at the earth atmosphere interface described, analyzed spatially, and related to climatic and land form distributions on earth.

GEO 301 Urban Geography (3,0,3) Cities from inter urban and intra urban perspectives; evolution of cities and urban areas; their internal structure and the dilemmas they face.

GEO 302 Cultural Geography (3,0,3) Impact of various cultures on landscape; distribution of culture traits; development of culture areas.

GEO 303 Economic Geography (3,0,3) Spatial distribution of primary, secondary, tertiary, quaternary, and quinary economic activities; theoretical approaches stressed.

GEO 306 Environmental Resource Management (3,0,3) Spatial issues of resources management; water and air pollution, solid wastes, energy, land use planning, wilderness preservation, and population pressures; interaction of ecosystems.

GEO 307 Perception of the Environment (3,0,3) How people perceive space and the features of their physical environment; mental maps, the perception of natural hazards, and space motion patterns.

GEO 308 Climatology (3,0,3) Physical basis of climate and weather; distribution of climatic types.

GEO 309 Historical Geography of the United States (3,0,3) Spread of settlement, growth of urbanization, and development of economic and culture regions; past and present distribution of religious groups, European ethnic groups, and Afro-Americans. Same as HIS 426.

GEO 310 Geography of Population (3,0,3) Spatial distribution of world population; regional variations of growth rates, standards of living, urban/rural densities, migration patterns, and environmental impact of populations, especially African, Native American, and European.

GEO 319 Remote Sensing of the Environment (3,0,3) Introduction to the principles and applications of environmental remote sensing; concepts and foundations of remote sensing, photographic systems and interpretation, thermal and multispectral scanning, radar systems, satellite remote sensing, and digital image processing. PREREQ: 3 semester hours of geography or consent of instructor.

GEO 314 Maps and Map Interpretation (3,0,3) Map reading and interpersonal skills, overview of map sources; surveying, interpretation of aerial photographs, remote sensing data and Geographic Information Systems. PREREQ: 3 semester hours of geography.

GEO 315 Cartography (3,0,3) Cartographic drawings, map symbolism, and map design; various map projections are studied with regard to possible uses.

GEO 316 Computer Cartography (3,0,3) Introduction to use of computers in geography; thematic mapping; graphic display of geographic information; employment of current cartographic software packages; application of computer mapping to geographic problems.

GEO 318 Geographic Information Systems (3,0,3) Introduction to the theories, principles, construction methods, and applications of geographic information systems; employment of a vector based GIS software package to manipulate spatial data and associated geo-referenced databases. PREREQ: 3 semester hours of geography.

GEO 327 Field Mapping in Geography (3,0,3) Field mapping and field exploration in the geography of Kentucky; overview of primary mapping techniques such as Surveying, Global Positioning System (GPS) and Remotely Sensed data. Ground truthing of image data and classification results and introduction to techniques of sampling, observation and spatial location procedures. Class includes a weekend field trip. PREREQ: 3 semester hours of geography.

GEO 330 Geography of Religion (3,0,3) Distribution of religions with a strong emphasis on the areal spread of various religions; impact of religion on landscape and on the environmental settings of several religions; changing religious patterns in the United States.

GEO 340 Sustainable Food Systems (3,0,3) Production processes and environmental impacts of agriculture, food manufacturing, food retailing in U.S. Land ownership patterns, subsistence food production, and cash crop production in developing world. Sustainable alternatives in U.S. and developing world.

GEO 360 Historical Urban Geography (3,0,3) Evolving form and structure of cities and city systems in a wide variety of historical and cultural contexts.

GEO 394 Topics: Advanced Map Studies (3,0,3) Advanced, individualized study in map reading and interpretation skills, cartographic drawing, computer cartography, or geographic information systems. May be repeated as a different topic. PREREQ: 3 semester hours of geography.

GEO 402 Geography of Europe (3,0,3) Physical, cultural, economic, and political patterns of Europe (excluding the former Soviet Union); continent-wide patterns of various characteristics as well as individual countries are considered.

GEO 403 Geography of Africa (3,0,3) Physical, cultural, economic, and political patterns of Africa, primarily south of the Sahara.

GEO 406 Geography of Latin America (3,0,3) Middle and South America's spatial characteristics, physical setting, social characteristics and economic structure.

GEO 407 Local Community: A Geographic Analysis (3,0,3) Geography of the urban community; basic ideas of regional planning. PREREQ: GEO 100.

GEO 409 Geography of North America (3,0,3) The continent's areal differences in physiography, climate, culture, and economic systems; synthesis of various spatial characteristics to form distinct regions. PREREQ: 3 semester hours of geography.

GEO 410 Geography of Asia (3,0,3) Physical and social geography of major regions; transformation of pre-colonial economic and cultural institutions by
world economic integration; evaluation of successes and failures of economic development. PREREQ: 3 semester hours of geography.

GER 492 Directed Research: Geography (3,0,3) Independent work on research project agreed upon by student and instructor. PREREQ: 3 semester hours of geography.

GER 496 Internship: Geography (3-6 sem. hrs.) Placement in public agency or private business for supervised experience in applying geographic concepts and techniques; meetings with faculty and with other internship students. Graded pass/fail. PREREQ: 3 semester hours of geography.

GER 499 Directed Readings: Geography (3,0,3) Individually supervised readings on a selected area of geography. PREREQ: 3 semester hours of geography and consent of instructor.

GEO 502 Geography of Kentucky (3,0,3) Cultural, physical, economic, and population characteristics of Kentucky; Kentucky's regional and national importance.

GEO 507 The Local Community: A Geographic Analysis (3,0,3) Geography of Northern Kentucky and Greater Cincinnati; social and economic characteristics of the urban community; regional planning process. PREREQ: GEO 100.

GEO 520 Environmental Resources for Teachers (3,0,3) Environmental problem areas such as energy use, population growth, tropical deforestation, toxic wastes; management of environmental problems; teaching methodologies. PREREQ: 3 semester hours of geography.

GEO 594 Topics: Geography (3,0,1-3) Study of selected topics. Subfields will be chosen in keeping with interest of the instructor and will be listed in schedule of classes. May be repeated for credit when topics vary. PREREQ: 3 semester hours of geography or consent of instructor.

GEO 594 Seminar: Geography (3,0,3) Selected topics in geography. Subfields will be chosen in keeping with the interest of the instructor in charge and will be listed in Schedule of Classes. May be repeated as topics change.

German

GER 101 Elementary German I (3,1,4) Fundamentals; development of skills in grammar, pronunciation, conversation, and reading. A general education course (humanities).

GER 102 Elementary German II (3,1,4) Continuation of GER 101. A general education course (humanities). PREREQ: GER 101 or appropriate placement score.

GER 180 Elementary Individualized Programmed Instruction in German (1,0,1) Individual work for students desiring additional instruction in grammar, pronunciation, vocabulary and cultural topics. May be repeated once for credit. PREREQ: consent of instructor.

GER 201 Intermediate German I (3,0,3) Review and extension of basic language skills learned in GER 101 and GER 102; reading and discussion of cultural, linguistic, and literary subjects. A general education course (humanities). PREREQ: GER 102 or appropriate placement score.

GER 202 Intermediate German II (3,0,3) Continuation of grammar review and enhancement of language skills begun in GER 201; consideration of cultural and literary subjects as well. A general education course (humanities). PREREQ: GER 201 or appropriate placement score.

GER 250 Business German (3,0,3) Introduction to German business terminology and practice in writing and translation of business letters. For students majoring in business and others seeking to broaden their career opportunities. PREREQ: GER 201 or appropriate placement score.

GER 280 Individualized Programmed Instruction in German (1,0,1) Individual work for students desiring additional instruction in grammar, pronunciation, vocabulary and cultural topics. May be repeated once for credit. PREREQ: consent of instructor.

GER 304 German Composition and Conversation (3,0,3) Advanced practice in writing German compositions and in oral conversation skills. PREREQ: GER 202 or appropriate placement score.

GER 310 Contemporary German Life (3,0,3) Key issues in Germany since World War II as reflected in works of contemporary German authors. May be repeated once for credit as topics vary. PREREQ: GER 202 or appropriate placement score.

GER 311 German Cultural History (3,0,3) Eras, institutions, and issues in the history of Germany; readings primarily in German. PREREQ: GER 202 or appropriate placement score.

GER 313 Practice in Reading (1,0,1) Reading from journals or materials in the student's own discipline or field of interest. PREREQ: GER 202 or appropriate placement score.

GER 320 Survey of German Literature (3,0,3) Overview of major authors and movements from the Middle Ages to the 20th century. A general education course (literature or humanities). PREREQ: GER 202 or appropriate placement score.

GER 322 German Drama (3,0,3) Study of major authors and texts in the history of German theater, including representative twentieth century playwrights; readings in German. May be repeated when topics vary. PREREQ: GER 202 or appropriate placement score.

GER 323 German Prose Fiction (3,0,3) Focus on novel, novella, or short story. May be repeated for credit as topics vary. PREREQ: GER 202 or appropriate placement score.

GER 350 Methods of Teaching German (3,0,3) Theoretical and practical considerations of teaching German in secondary schools. Required of all students seeking teaching certification in German. PREREQ: GER 202 or appropriate placement score

GER 480 Topics in German Culture (3,0,3) Topics in culture and language of German-speaking countries. May be repeated for credit as topics vary. PREREQ: GER 202 or appropriate placement score

GER 481 Topics in German Literature (3,0,3) Topics in literature, literary history, and literary theory. May be repeated for credit when topics vary. PREREQ: GER 202 or appropriate placement score

GER 499 Independent Study: German (3,1,0,1-3) Readings in language and literature; readings of scientific literature. PREREQ: consent of instructor.

GEO 311 German Cultural History (3,0,3) Eras, institutions, and issues in the history of Germany; readings primarily in German. PREREQ: GER 202 or appropriate placement score.

GEO 520 Environmental Resources for Teachers (3,0,3) Environmental problem areas such as energy use, population growth, tropical deforestation, toxic wastes; management of environmental problems; teaching methodologies. PREREQ: 3 semester hours of geography.

GEO 550 Methods of Teaching Geography (3,0,3) Theoretical and practical considerations of teaching geography in secondary schools. Required of all students seeking teaching certification in geography. PREREQ: GER 202 or appropriate placement score.

GEO 424 Seminar in Geology (3,0,3) A study of the ways in which geology affects our society including geologic hazards such as volcanoes, earthquakes, landslides, flooding and coastal erosion as well as the pollution of our soil and water resources. Emphasis is placed on environmental geologic conditions in the Tri-State. A general education course (natural science).
GLY 130 Dinosaurs (3,0,3) Exploration of principles of geology and paleontology through the study of dinosaur biology and paleoecology. A general education course (natural science).

GLY 155L Regional Geology Laboratory (01,1) A laboratory experience to study the geology of the Cincinnati/Northern Kentucky region, the geologic history of the region and the ways the past geologic processes have acted to create the present landscape. A general education course (natural science). COREQ: a geology 100 level or 200 level course.

GLY 220 History of the Earth (3,0,3) An introduction to the origin of the Earth, including plate tectonics, mountain building, the evolution of life as interpreted from the fossil record, mass extinctions and catastrophic geologic events. Emphasis is placed on the geologic history and fossil record of the tri-state region. A general education course (natural science).

GLY 230 Geology of National Parks (3,0,3) A study of the principals of physical geography using national parks as examples to illustrate the concepts presented. This will include the formation and occurrence of rocks and minerals, the internal processes that have acted to form underlying rock structures and the surface processes that have acted to form current landforms. A general education course (natural science).

GLY 240 Geology of Natural Resources (3,0,3) An introduction to the geologic and societal factors that govern the distribution, recovery, and cost of our natural resources such as metallic minerals, industrial materials, fossil fuels, and nuclear energy. Topics include the geologic processes responsible for their formation and occurrence, economic factors that control their development, and the environmental impacts of their recovery and use. Natural resources of the Commonwealth of Kentucky will be studied as examples of the whole of these. A general education course (natural science).

GLY 250 Geology of Northern Kentucky (2,1,3) Geology and geologic history of Kentucky and the central Ohio River valley, including bedrock structure and stratigraphy, fossils, landforms and regional setting. Geologic hazards and processes currently modifying the geologic environment are emphasized. Field trips required. Summers only. PREREQ: GLY 110.

GLY 294 Topics: Geology (1-3 sem. hrs.) Special topics in geology. Repeatable for a maximum of 12 semester hours. PREREQ: consent of department chair.

GLY 315 Structural Geology with Laboratory (3,2,4) Primary and secondary structures of the earth's crust. PREREQ: Three credit hour geology course.

GLY 325 Geology of the Planets (3,0,3) Geological features and history of inner planets. PREREQ: Three credit hour geology course or AST 110.

GLY 330 Geomorphology with Laboratory (3,2,4) Description and interpretation of land forms. PREREQ: GLY 110.

GLY 335 Earth Materials (2,4,4) Study of the physical and chemical properties of common rock and ore forming minerals and the igneous, metamorphic and sedimentary rock types that they form. The origin and development of rock systems. PREREQ: GLY 110.

GLY 340 Introduction to Environmental Geoscience (2,1,3) Human interaction with the earth's geological aspects; natural hazards, water resources, waste disposal, energy, mineral resources, and land use and planning. Laboratory component included. PREREQ: Three credit hour geology course.

GLY 341 Soil Science (3,0,3) A study of the way in which soils and geologic conditions influence environmental conditions and projects. Soil formation and soil properties to include composition and water relationships as well as erosion theory and control and re-vegetation will be covered. PREREQ: GLY 110.

GLY 392 Directed Research: Geology (1-3 sem. hrs.) Supervised research in an area of geology currently under investigation by one or more of the geology faculty. Repeatable for a maximum of 9 semester hours. PREREQ: junior standing.

GLY 394 Seminar: Geology (1,0,1) Repeatable to a maximum of 4 semester hours. PREREQ: Junior standing or consent of instructor.

GLY 397 Special Projects: Geology (1-3 sem. hrs.) Completion of an independent project in geology. Repeatable for a maximum of 6 semester hours. PREREQ: junior standing.

GLY 399 Readings: Geology (1-3 sem. hrs.) For students able to do independent work. Repeatable to a maximum of 6 semester hours. PREREQ: 20 semester hours in geology.

GLY 402 Invertebrate Paleontology with Laboratory (3,2,4) Major phyla in the fossil record; paleobiological, systematic, and evolutionary aspects; collection and classification of local fossils. Same as BIO 405. PREREQ: Six hours of geology courses.

GLY 416 Geologic Field Methods (1,6,3) Introduction to the principles of geologic field methods applied to the mapping of geologic structures and the interpretation of geologic history. Course integrates the concepts of geologic investigation through field exercises in the Rocky Mountains. PREREQ: Six hours of geology courses.

GLY 420 Stratigraphy and Sedimentation with Laboratory (3,2,4) Physical and biological bases of stratigraphy; processes of formation and environments of deposition of sedimentary rocks. PREREQ: Six hours of geology courses.

GLY 435 Sedimentary Petrology and Petrography (2,4,4) Students will use petrographic analysis to identify clastic and chemical sedimentary minerals. Students will use this analysis to identify sedimentary rocks and to evaluate sedimentary rocks for geologic history as well as for economic applications. PREREQ: GLY 335.

GLY 450 Hydrogeology with Laboratory (2,4,4) Overview of groundwater's physical and chemical properties and their corresponding principles as they pertain to geologic environments. PREREQ: Six hours of geology and MAT 120 or 122.

GLY 455 Groundwater Resources and Management with lab (2,4,4) Geologic and hydrologic factors that control the management of groundwater resources; emphasis placed on groundwater management, groundwater quality and groundwater remediation. PREREQ: GLY 450.

GLY 492 Directed Research: Geology (2-6 sem. hrs.) Independent work in field, laboratory, and library on research topic chosen prior to registration. Repeatable to a maximum of 6 semester hours but total semester hours in GLY 392 plus 492 may not exceed 6. PREREQ: 24 semester hours in geology.

GLY 496 Externship: Geology (1-3 semester hours) Off-campus learning at institutions, universities or businesses conducting geologic studies. Course may be repeated for new externship projects; up to 4 semester hours total may be earned in this course. For students majoring or minoring in Geology or Environmental Science. Fall, spring, summer. PREREQ: Six hours of geology courses.

Health Education

HEA 125 Introduction to Health Education (3,0,3) Health education as a profession and for program implementation in the schools, community, and patient education; philosophies and beliefs regarding health education.

HEA 135 Safety and First Aid (3,0,3) First aid measures for injuries, emergencies, and sudden illness; skill training in all procedures; general safety education; accident causes and remedial action. American Red Cross certification in basic first aid and CPR for students passing the examinations.

HEA 160 Personal Health (3,0,3) Holistic health; development of a healthy and aging personality, emotional health, social health, consumer health, and environmental health using a variety of methods including analysis and synthesis of research; application of these data in the decision making process critical to health lifestyle choices.

HEA 170 Community Health (3,1,3) Understanding components of community health; organization, physical diseases, psychosocial problems, and environmental and special aspects. Fall
HEA 250 Health Education for Elementary Teachers (2,0,2) Content and skills for developing, implementing, and evaluating health education in the P-5 classroom. PREREQ: admission to P-5 program or consent of instructor.

HEA 320 Drug and Alcohol Education (3,0,3) Effects of drug use and abuse on the individual and society. Personal, school and community approaches toward establishing intelligent use of drugs. PREREQ: junior standing.

HEA 350 Sexuality Education (3,0,3) Current issues in sexuality education; psychological, biological, and sociological aspects of sexuality; dealing with controversial areas of sexuality; scope and sequence of sexuality education K-12. PREREQ: junior standing.

HEA 489 Practicum: Health Education (01,1) Supervised practice teaching experience in elementary, middle, and high school setting. Integrated with methods course. COREQ: HEA 525.

HEA 525 Methods and Materials in Health Education (3,0,3) Principles, methods, and techniques for developing, implementing, and evaluating health education in p-12 and other appropriate settings; theoretical foundations, teaching methodology and strategies, curriculum designs, and resource materials. PREREQ (undergraduates): admission to teacher education and 9 semester hours in health education or consent of instructor.

HEA 599 Special Topics in Health Education (1-3 sem. hrs.) Individual or group study of a topic of current interest in health education. Topic selected by student with approval of instructor.

Health Science

BHS 410 Healthcare Management (3,0,3) Basic applied management functions in the healthcare setting; personnel and patient scheduling; purchasing procedures; budget and quality improvement process; organization relationships and authority. PREREQ: RAD 386 or RSP 486.

History

HIS 100 History of Europe to 1713 (3,0,3) Survey of Europe including Greco Roman civilization, the Middle Ages, the Renaissance, and the emergence of the modern era. A general education course (history or humanities).

HIS 101 History of Europe, 1713 to the Present (3,0,3) Survey of Europe from the Ancient Regime to the present; impact of modern political revolution, the industrial revolution, and social and cultural alterations that have shaped contemporary society. A general education course (history or humanities).

HIS 102 History of the United States through 1877 (3,0,3) The nation's development from the beginning through the Civil War and Reconstruction. Designed to meet demands for a general understanding of U.S. history. A general education course (history or humanities).

HIS 103 History of the United States since 1877 (3,0,3) Continuation of HIS 102. A general education course (history or humanities).

HIS 106 History of African Americans to 1877 (3,0,3) Major trends of African American history from its 15th century West and Central African heritage to enslavement and ultimate emancipation; conditions and contributions of African American men and women within the American experience. A general education course (history or humanities).

HIS 107 History of African Americans since 1877 (3,0,3) Major trends of African American history from the end of Reconstruction; responses of African Americans to Jim Crow; African American participation in the two world wars, the Vietnam War, and the civil rights movement. A general education course (history or humanities).

HIS 108 World History to 1500 (3,0,3) Political, social, economic and cultural development of major world societies to the expansion of the western world. A general education course (history or humanities).

HIS 109 World History since 1500 (3,0,3) Political, social, economic and cultural development of major world societies in the modern era. A general education course (history or humanities).

HIS 194 Seminar: Honors (3,0,3) Research methods and materials of the historian; usefulness of historical analysis to students in many disciplines. An alternative to the 100 level survey courses for students who have demonstrated outstanding potential in history. A general education course (history or humanities). PREREQ: a composite score of 24 on current ACT or equivalent; or HNR GPA of 3.25 or higher.

HIS 291W Advanced Historical Writing (3,0,3) A course designed to help students develop the necessary expertise and approaches for researching, organizing, writing, revising and editing the styles of writing used most often to communicate in the discipline of history. PREREQ: ENG 101 and 3 semester hours of history. A general education course (written communications II).

HIS 300 The Ancient Near East and Greece to the Macedonian Conquest (3,0,3) Birth of civilization in Egypt and Mesopotamia; ancient near East and Greece to the conquest of Greece by Philip of Macedon.

HIS 301 The Hellenistic World and Rome to the Death of Constantine (3,0,3) Conquests of Alexander the Great; main features of the Hellenistic world and the Roman Empire.

HIS 303 Europe in the Middle Ages (3,0,3) Developments from the 4th through the 15th centuries.

HIS 304 Renaissance Europe (3,0,3) Developments from Petrarch to the Treaty of Westphalia; significant cultural and religious trends.

HIS 305 Reformation Europe (3,0,3) German, English, Swiss, and French reformation; Counter Reformation; religion, politics, and social and intellectual change, 1494-1648.

HIS 308 Modern Europe, 1870-1920 (3,0,3) European society, especially as affected by the growth of nationalism, imperialism, and modern science culminating in the origins and results of World War I.

HIS 309 Modern Europe since 1920 (3,0,3) Economic and political instability in the inter war years; World War II; European renaissance since 1945.

HIS 310 Colonial America to 1763 (3,0,3) Origins and development of the English colonies.

HIS 311 The War for Independence and the Constitution, 1763-1789 (3,0,3) Causes of the break between America and Great Britain; the war for American independence; the confederation period; writing and adopting the Constitution and the Bill of Rights.

HIS 312 Federalist United States, 1789-1828 (3,0,3) Successful consolidation of the U.S. as a modern nation-state.

HIS 313 Expansion and Conflict, 1828-1861 (3,0,3) Territorial, sectional, and cultural growth; nature and expansion of slavery and conflicts such as debate over the extension of slavery that culminated in the U.S. Civil War.

HIS 314 Rise of the Industrial United States, 1865-1900 (3,0,3) Effects of increased industrialization and urbanization on the U.S. economy, government, and post Civil War society.

HIS 315 Modern United States History, 1900-1939 (3,0,3) Major changes that marked the U.S. during the first 40 years of the 20th century.

HIS 316 Modern United States History Since 1939 (3,0,3) Major political and social changes since 1939.

HIS 317 History of the New South (3,0,3) The southern U.S. since 1865; cultural, political, economic, and literary trends; roles of blacks from Reconstruction to present, including the rise of Jim Crowism, legal segregation in the 20th century, desegregation, and civil rights movements in 1950s, 60s, and 70s.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 318</td>
<td>Current Events in a Historical Perspective</td>
<td>3,0,3</td>
<td>Historical background of significant recent events in U.S. history.</td>
</tr>
<tr>
<td>HIS 319</td>
<td>Conflicting Historical Viewpoints</td>
<td>3,0,3</td>
<td>Conflicting interpretations of some major historical events and trends of the contemporary world.</td>
</tr>
<tr>
<td>HIS 320</td>
<td>The Colonial Experience in the Non-western World</td>
<td>3,0,3</td>
<td>Impact of western colonialism on traditional societies in &quot;Third World.&quot;</td>
</tr>
<tr>
<td>HIS 321</td>
<td>Modernization in the Non-western World</td>
<td>3,0,3</td>
<td>The “Third World” nations; problems resulting from conflicting dynamics of independence and modernization.</td>
</tr>
<tr>
<td>HIS 322</td>
<td>History of Naval Warfare</td>
<td>3,0,3</td>
<td>Development of fighting ships in western culture; interaction between social and technological factors and warfare on the high seas.</td>
</tr>
<tr>
<td>HIS 323</td>
<td>United States Military History</td>
<td>3,0,3</td>
<td>U.S. military history from colonial times to the present; operations; interaction between war and society.</td>
</tr>
<tr>
<td>HIS 325</td>
<td>Early Latin American History</td>
<td>3,0,3</td>
<td>Origin, growth, and development of Latin America from the pre-Colombian period to the independence revolutions of the early 19th century, including analysis of Iberian and non-Iberian tradition.</td>
</tr>
<tr>
<td>HIS 326</td>
<td>Modern Latin American History</td>
<td>3,0,3</td>
<td>Political, economic, social, and cultural development of Latin America from independence through the 19th and 20th centuries; analysis of Iberian and non-Iberian tradition.</td>
</tr>
<tr>
<td>HIS 327</td>
<td>Anglo-American Legal History</td>
<td>3,0,3</td>
<td>Origin and development of the Common Law from Norman beginnings to the present; emphasis on U.S. culture; interaction between social and technological factors and warfare on the high seas.</td>
</tr>
<tr>
<td>HIS 329</td>
<td>History of the Middle East</td>
<td>3,0,3</td>
<td>Evolution of southwestern Asia since the rise of Islam; 19th and 20th century origins of contemporary problems.</td>
</tr>
<tr>
<td>HIS 330</td>
<td>History of China</td>
<td>3,0,3</td>
<td>Traditional and modern China; cultural, political, religious and philosophical survey.</td>
</tr>
<tr>
<td>HIS 331</td>
<td>History of Japan</td>
<td>3,0,3</td>
<td>Traditional and modern Japan; cultural, political, religious and philosophical survey.</td>
</tr>
<tr>
<td>HIS 332</td>
<td>World Civilizations to 1500</td>
<td>3,0,3</td>
<td>Economic, social, political, and cultural aspects of major western and non-western civilizations prior to the era of western world dominance. PREREQ: A 100-level history course or consent of instructor.</td>
</tr>
<tr>
<td>HIS 333</td>
<td>World Civilizations Since 1500</td>
<td>3,0,3</td>
<td>The major western and non-western civilizations’ economic, social, political and cultural evolution in the modern era. PREREQ: A 100-level history course or consent of instructor.</td>
</tr>
<tr>
<td>HIS 335</td>
<td>History of Ancient Africa</td>
<td>3,0,3</td>
<td>Examination of African History from the earliest humans to the transatlantic slave trade. Course stresses the use of interdisciplinary sources to reconstruct African history and counter popular myths about Africa and Africans.</td>
</tr>
<tr>
<td>HIS 336</td>
<td>History of Modern Africa</td>
<td>3,0,3</td>
<td>Examination of African History from the transatlantic slave trade to the current era. Course stresses the historical roots of current African conditions via an understanding of the transatlantic slave trade, colonialism, and African cultural, economic and political traditions.</td>
</tr>
<tr>
<td>HIS 353</td>
<td>English History to 1485</td>
<td>3,0,3</td>
<td>From the Roman invasion to the end of the Middle Ages.</td>
</tr>
<tr>
<td>HIS 354</td>
<td>English History from 1485 to 1760</td>
<td>3,0,3</td>
<td>From the founding of the Tudor dynasty to the accession of George III.</td>
</tr>
<tr>
<td>HIS 355</td>
<td>English History from 1760 to Present</td>
<td>3,0,3</td>
<td>From the accession of George III to the present.</td>
</tr>
<tr>
<td>HIS 362</td>
<td>History of Germany to 1870</td>
<td>3,0,3</td>
<td>From the Holy Roman Empire to emergence of modern nationalism and the Industrial Revolution.</td>
</tr>
<tr>
<td>HIS 363</td>
<td>History of Germany Since 1870</td>
<td>3,0,3</td>
<td>Cultural, political, and social developments since founding of the German Empire.</td>
</tr>
<tr>
<td>HIS 365</td>
<td>European Military History: Ancient World to the Renaissance</td>
<td>3,0,3</td>
<td>Interaction between warfare and European society from the ancient world to the Renaissance.</td>
</tr>
<tr>
<td>HIS 366</td>
<td>European Military History: Renaisssance to the Modern World</td>
<td>3,0,3</td>
<td>Interaction between warfare and European society from the Renaissance until the end of World War II.</td>
</tr>
<tr>
<td>HIS 377</td>
<td>Modern Russia Since 1855</td>
<td>3,0,3</td>
<td>Modernization under the last Romanov emperors: bolshevik dictatorship; modern communist state; post-communist developments.</td>
</tr>
<tr>
<td>HIS 380</td>
<td>History and Film</td>
<td>3,0,3</td>
<td>Film as a reflection and a shaper of history. May be repeated for credit when topics vary.</td>
</tr>
<tr>
<td>HIS 382</td>
<td>History of Kentucky</td>
<td>3,0,3</td>
<td>History of Kentucky from 1750 to the present; political, economic, and social issues; how developments in the Commonwealth related to trends in U.S. history.</td>
</tr>
<tr>
<td>HIS 385</td>
<td>Art and Method of History</td>
<td>3,0,3</td>
<td>Survey of major philosophies of history and of the meaning and nature of history; introduction to methods of historical research and writing. Required of all students majoring in history and of all students in the social studies area of concentration; should be taken if possible before other upper division work in history.</td>
</tr>
<tr>
<td>HIS 409</td>
<td>The French Revolution</td>
<td>3,0,3</td>
<td>The revolution through the Napoleonic era; its international repercussions and influences on revolutionary movements and political philosophies of modern times.</td>
</tr>
<tr>
<td>HIS 413</td>
<td>History of Nazi Germany</td>
<td>3,0,3</td>
<td>Origins, dimensions, and downfall of Hitler's fascist state.</td>
</tr>
<tr>
<td>HIS 414</td>
<td>The Holocaust</td>
<td>3,0,3</td>
<td>An exploration of the genocidal European Holocaust during World War II. Includes study of the origin, growth and development of European anti-Semitism and pseudoscientific biological racism as practiced in National Socialist (Nazi) Germany.</td>
</tr>
<tr>
<td>HIS 416</td>
<td>Plains Indians</td>
<td>3,0,3</td>
<td>A history of the Sioux, Cheyenne, Comanche, Nez Perce, and Apache, concentrating on the post Civil War era and especially on the fate of these peoples at the hands of white civilization.</td>
</tr>
<tr>
<td>HIS 417</td>
<td>Civil War and Reconstruction, 1860-1877</td>
<td>3,0,3</td>
<td>Causes of the Civil War; the war in the field and on the home front; slavery, emancipation, and the economic, political, and social consequences of reconstruction.</td>
</tr>
<tr>
<td>HIS 419</td>
<td>Social and Economic History of the United States to 1865</td>
<td>3,0,3</td>
<td>Economy of the young nation and its relationship to social classes and changes, including gender issues.</td>
</tr>
<tr>
<td>HIS 420</td>
<td>Social and Economic History of the United States Since 1865</td>
<td>3,0,3</td>
<td>The Industrial Revolution and its social consequences; immigration and mobility; gender issues; other backgrounds to contemporary society.</td>
</tr>
<tr>
<td>HIS 421</td>
<td>Cultural and Intellectual History of the United States to 1875</td>
<td>3,0,3</td>
<td>U.S. life and thought as reflected in Puritanism, in the Enlightenment, in Jacksonian nationalism, and in social and political reform movements in the mid-19th century.</td>
</tr>
<tr>
<td>HIS 422</td>
<td>Cultural and Intellectual History of the United States Since 1875</td>
<td>3,0,3</td>
<td>Exploration of the U.S. mind and character in the last 100 years; influences of Darwinian thought, reformism, urbanization, cultural nationalism, and contemporary social tensions.</td>
</tr>
<tr>
<td>HIS 423</td>
<td>Diplomacy and Foreign Policy of the United States</td>
<td>3,0,3</td>
<td>Principles, historical evolution, and particular nuances of U.S. foreign policy.</td>
</tr>
<tr>
<td>HIS 424</td>
<td>History of American Diplomacy to 1900</td>
<td>3,0,3</td>
<td>This is an advanced level survey of the personalities, events, and policies affecting American foreign policies from colonial times to 1900. Students will be exposed to readings and research utilizing methodologies in the subject area of American Diplomacy.</td>
</tr>
</tbody>
</table>
HIS 425 History of American Diplomacy Since 1900 (3,0,3) This is an advanced level survey of the personalities, events, and policies affecting American foreign policies from 1900 to the present. Students will be exposed to readings and research utilizing historical methodologies in the subject area of American Diplomacy.

HIS 426 Historical Geography of the United States (3,0,3) Spread of settlement, growth of urbanization, and development of economic and culture regions; past and present distribution of religious groups, European ethnic groups, and African-Americans. Same as GEO 309.

HIS 427 Urban History of the United States (3,0,3) Origins and growth of cities; impact of cities upon U.S. development; contemporary urban problems.

HIS 431 Historical Themes in African American History (3,0,3) Experiences undergone by Africans in the diaspora from Africa and subsequent scattering throughout the U.S.; struggles over race and gender within the context of dominant political, economic, social, and cultural institutions; attempts by Blacks to build an enduring community. PREREQ: HIS 102 and HIS 103 or HIS 106 and HIS 107. A general education course (race/gender perspective).

HIS 435 History of Race Relations in the Americas, 1492-c.1800 (3,0,3) Major influences in the formation of race relations in the Americas (U.S. and Latin America) from the European explorations to the revolutions for independence; role of race in the development of European colonies in the Americas. PREREQ: 3 hours of history or consent of instructor(s).

HIS 436 History of Race Relations in the Americas, c. 1800 to the Present (3,0,3) Major influences in the development of race relations in the Americas (U.S. and Latin America) from the revolutions for independence to the present; role of race in the development of modern nation states in the U.S. and Latin America. PREREQ: 3 hours of history or consent of instructor(s).

HIS 438 African-American Women's History and Culture (3,0,3) This discussion-oriented course is a history of African-American women that begins by examining African women and their cultures prior to European contact and ends with a look at women in the civil Rights Movement. This course satisfies Afro-American Studies history option.

HIS 442 History Through Biography (3,0,3) Examination of various historical eras through study of lives of influential and outstanding individuals from diverse areas. Topics vary. May be repeated once for credit.

HIS 444 History of Women in the United States to 1900 (3,0,3) Women's role in U.S. economic, social, political, and cultural development until 1900; participation of women in historical eras from earliest societies through industrialization as experienced in diverse ways depending on racial, ethnic, class, and regional differences. PREREQ: HIS 102. A general education course (race/gender perspective).

HIS 445 History of Women in the United States since 1900 (3,0,3) Women's role in U.S. economic, social, political, and cultural development since 1900; participation of women in recent history as experienced in diverse ways depending on racial, ethnic, class, and regional differences. PREREQ: HIS 103. A general education course (race/gender perspective).

HIS 446 Early American Frontier (3,0,3) Westward movement and its effects on national character to 1840; colonial wars, War for Independence, land policy, Indian relations, exploration, fur trade, War of 1812.

HIS 455 Later American Frontier (3,0,3) Westward movement and its effect on national character since 1840; Manifest Destiny, Great Plains, Mormons, mining boom, cattle industry, Civil War, relations with Indians, conservation, end of the frontier.

HIS 465 Nature and Development in Latin American History (3,0,3) Examination of the historical relationship between the natural environment and humans in Latin America from the pre-Columbian period to the present; historical ecology, environmental history, secular degradation, economic/social development and modernization. PREREQ: 3 hours of history or consent of instructor.

HIS 473 Battles and Behavior I: 1066-1836 (3,0,3) Representative battles from Hastings to the Alamo; reveals the interaction between western civilization and its military conflicts.

HIS 474 Battles and Behavior II: 1854-1984 (3,0,3) Representative battles from the Crimea to Star Wars; reveals the interaction between western civilization and its military conflicts.

HIS 475 The First World War (3,0,3) The military record and the war's impact upon international socioeconomic, political, and cultural change.

HIS 476 The Second World War (3,0,3) Origins and prosecution of the war; military and diplomatic aspects from an international perspective.

HIS 494 Seminars (1-3,0,1-3 each) Selected topics in a general area of history.

HIS 496 Internship: Public History (3 sem. hrs.) Supervised work experience (8 hours per week) in a community history agency or institution under a professional staff. May be repeated once for credit. PREREQ: junior or senior standing and consent of instructor.

HIS 499 Independent Study: History (0,0,1-3) Individualized study of a special topic under supervision of faculty member. May be repeated for credit when topics vary. PREREQ: a 100-level history course and consent of instructor.

HIS 513 The French Revolution (3,0,3) Political, economic, and cultural background of the French Revolution, emphasizing the changing character of the Revolution as it moved in phases from moderate and middle class to radical and violent.

HIS 533 Expansion and Conflict (3,0,3) Conflicts that developed with the physical growth of the U.S. during the period 1828 to 1861 involving Mexico, slavery, and Indians.

HIS 535 Civil War and Reconstruction (3,0,3) Causes of the U.S. Civil War; the war itself; slavery, emancipation, reconstruction; economic, military, and social aspects.

HIS 538 Modern United States History, 1900-1939 (3,0,3) Rise of the U.S. to the status of a major world power; the “Progressive Era” and World War I; the 1920s and the 1930s.

HIS 539 Modern United States History Since 1939 (3,0,3) Social and political developments from 1939 to contemporary society including the civil rights movement.

HIS 541 History of Kentucky (3,0,3) History of Kentucky from 1750 to the present; political, economic, and social issues; how developments in the Commonwealth related to trends in U.S. history.

HIS 543 History of the American Frontier (3,0,3) The westward movement and its effect on national character; expansionism; Indian and land policies; cattle and mining frontiers.

HIS 546 History of the American Family (3,0,3) This discussion-oriented course is a history of the American family from the colonial era to the present. We will examine how and why courtship, marriage, sexuality, divorce, and parent/child relationships have changed over time while paying particular attention to racial, class, and gender differences.

HIS 547 Christian Women's Bodies: A Historical Perspective (3,0,3) This course examines the historical development of Christian thought and representation of women, the body, and nature through a study of church doctrine and scripture, women's writing, feminist scholarship and theology, and artistic representations of women.

HIS 548 Diplomacy and Foreign Policy of the United States (3,0,3) Historical evolution of U.S. foreign policy from the Revolutionary War to the present; growth of the U.S. from a minor state to a global power.

HIS 552 History of the Old South (3,0,3) The southern U.S. to 1865; cultural, political economic, and literary trends; African American experience in the South.
HIS 553 History of the New South (3,0,3) The southern U.S. since 1865; cultural, political, economic, and literary trends; roles of blacks from Reconstruction to present, including the rise of Jim Crowism, legal segregation in the 20th century, desegregation, and civil rights movements in the 1950s, 60s, and 70s.

HIS 555 Researching the Local History of Underground Railroad (3,0,3) This course explores the various activities of enslaved African Americans as they attempted to abscond from human bondage by crossing the Ohio River, which legally separated slave states from free states. Special attention will be placed on the abolition movement as well as the development of various African American communities in parts of Cincinnati and northern Kentucky. PREREQ: HIS 102 or HIS 106.

HIS 556 African Americans in U.S. Culture, Education, and Politics (3,0,3) African Americans and their interactions within and their contributions to cultural, educational, and political development of the U.S.

HIS 557 History of the Indians of the United States (3,0,3) Native cultural and historical experiences from the 15th to 20th century.

HIS 561 Modernization in the Non-Western World (3,0,3) Rise of self-assertion of Third World nations; political, economic, social, and cultural problems of national development.

HIS 565 The Vietnam War (3,0,3) Roots of Indo-Chinese war in traditional Vietnamese culture as affected by colonialism, nationalism, and Marxism; causes of U.S. military intervention, stalemate, and consequent American political crisis; impact of war on Vietnamese and American societies; debate over lessons of the war.

HIS 570 The Cold War (3,0,3) International perspective on the causes and evolution of the conflict between the United States and the Soviet Union and their allies; effects on world affairs to the fall of the Berlin Wall and demise of the Soviet Union. PREREQ: 3 hours of 100-level history courses.

HIS 571 Internet Research in American History (3,0,3) This is a topical survey of American History from a multicultural perspective using the internet.

HIS 589 Anglo-American Legal History (3,0,3) Origin and development of the Common Law from Norman beginnings to the present; emphasis on the U.S.

HIS 592 Directed Research in History (0,0,3) Individual research in an area of history under supervision of faculty member. May be repeated once for credit. PREREQ: consent of instructor.

HIS 594 Selected Topics: History (3,0,3) Lecture class in topic not included in regular history curriculum. May be repeated for credit when topics vary.

HIS 596 Internship: History (0,0,3) Supervised work experience in a community history agency or institution or experiential learning in an aspect of public history under the direction of a faculty member. May be repeated once for credit. PREREQ: consent of instructor.

HIS 599 Independent Study: History (0,0,1-3) Individualized study of a special topic under supervision of faculty member. May be repeated for credit when topics vary. PREREQ: consent of instructor.

Honors

HNR 101 Honors Seminar: The Role of Intellect in Society (3,0,3) Past and present role of intellect in society; general introduction to the goals of the intellect and the tools needed to attain them; nature of higher learning; function of the university; ends and means of higher education.

HNR 301 Honors Seminar: Humanity and Nature (3,0,3) Readings and discussion on significant issues and ideas in the general area of humanity and nature.

HNR 302 Honors Seminar: Humanity and Society (3,0,3) Readings and discussion on significant issues and ideas in the general area of humanity and society.

HNR 303 Honors Seminar: Humanity and the Imagination (3,0,3) Readings and discussion on significant issues and ideas in the general area of humanity and the imagination.

HNR 304 Honors Seminar: Humanity and the Machine (3,0,3) Readings and discussion on significant issues and ideas in the general area of humanity and the machine.

HNR 306 Studies in Diversity (3,0,3) Analysis of society and its multicultural representations in selected areas of study (varies from semester to semester).

HNR 307 Studies in Film (3,0,3) Studies in selected topics in film and its relationship to social issues and other arts.

HNR 308 The World in Transition (3,0,3) Analysis of contemporary trends in cyberspace, business and other social arenas.

HNR 309 World Cities/World Cultures (3,0,3) Exploration and appreciation of selected world-class cities and a variety of cultures; cities and cultures vary from semester to semester; taught in English; may be cross-listed with a foreign-language course.

HNR 394 Seminar: Special Topics Honors (3,0,3) Readings and discussion on significant issues not covered in other honors seminars.

HNR 396 Internship (3,0,3) Selected opportunities for students to serve as teaching assistants, research assistants or as assistants in designated business or community groups.

HNR 491 Senior Honors Thesis (0-3,0,0-3) Independent research; oral and written expression. Repeatable for up to 6 hours.

Human Services/Mental Health

HSR 100 Orientation to Mental Health/Human Services (3,0,3) The field of human services; observing human service delivery agencies in operation; activities of workers in meeting client needs; values and attitudes of human service workers; roles and responsibilities of human service workers; concept of the generalist; concepts of human behavior and needs, and strategies and programs for meeting human needs. Formerly HSR 115.

HSR 102 Practicum in Human Services I (0,16,4) Practicum experience in a clinical setting introducing students to activities of various agency workers and providing opportunities through supervised interaction with clients to begin developing clinical skills; training in observation, communication, and interaction with clients or patients as preparation for entrance into advanced clinical experience. Formerly HSR 106. PREREQ: consent of instructor. COREQ: HSR 103.

HSR 103 Practicum Seminar I (2,0,2) Seminar to accompany HSR 102; discussion of practicum experience and major clinical issues; reinforcing of developing skills. COREQ: HSR 102.

HSR 105 Counseling for Human Service Professions (3,0,3) Skills involved in initiating and conducting an effective counseling relationship; models and theories of helping; establishing the counseling relationship; developing counseling responses; identifying counseling goals; implementing strategies to bring about improvement. Formerly HSR 225.

HSR 110 Activities Therapy (3,0,3) Nature and use of therapeutic activities in a variety of settings; organization, content, and application of activity programs and materials for various age levels in hospitals and agencies; training in use of games, arts and crafts, music, dance, and recreation.

HSR 207 Practicum in Human Services II (0,16,4) Clinical placement in human service agencies to develop skills in observation, interviewing, reports, therapeutic relationships, and case presentation. PREREQ: HSR 102. COREQ: HSR 211.

HSR 211 Practicum Seminar II (2,16,2) A seminar to accompany HSR 207 during which practicum experience will be discussed, major clinical issues raised
and explored, and interpersonal and intra personal skills developed. PREREQ: HSR 102 COREQ: HSR 207.

HSR 212 Crisis Intervention (3,0,3) Practice oriented approach to understanding and working with individuals and families experiencing immediate crisis; dynamics of the crisis experience; recognizing the crisis situation; interviewing clients in crisis; developing and implementing coping strategies; utilizing resource and support systems; referral.

HSR 216 Group Theories and Practice (3,0,3) Small group dynamics and procedures within the mental health/human services field; experimental and cognitive activities introducing types and models of group work, stages of group development, group dynamics, leadership skills/strategies, interventions, and ethical considerations. PREREQ: HSR 105 or consent of instructor.

HSR 226 Behavior Problems of Children (3,0,3) Children's most common behavioral difficulties and their treatment; major etiological, diagnostic, and treatment factors involved in psychological and physical handicaps; behavioral problems of the preschool elementary school; adolescent years.

HSR 250 Introduction to Therapeutic Recreation (3,0,3) The field of therapeutic recreation; philosophy, history, concepts, trends, and activity adaptation; characteristics of special populations; program design analysis; evaluation of treatment goals and objectives; basic recreational skills and community resources and services available. Formerly HSR 150.

HSR 300 Contemporary Issues in Mental Health (3,0,3) Important current social, ethical, and legal issues and trends in mental health/human services; presentations by speaker shaving particular expertise in various issues. PREREQ: HSR 100, junior standing, or consent of instructor.

HSR 301 Holistic Approach to Mental Health (3,0,3) Exploration of the holistic perspective as applied to mental health; the mind/body system, transpersonal dimensions, the emerging view of mind, discovering human potentials, practices for promoting positive mental health.

HSR 302 Rehabilitation of the Geriatric Patient (3,0,3) Service stating geriatric patients; impediments blocking continued independent living; use and maintenance of mechanical and prosthetic devices facilitating the rehabilitative process; instruction in making home visits, using effective rehabilitation teaching methods, and activities of daily living. PREREQ: HSR 306 or consent of instructor.

HSR 304 Field Experience in Mental Health I (2,16,4) Advanced supervised work experience in a mental health/human services agency providing direct services to clients and patients; development of skills to prevent mental illness and promote mental health in group/community settings. Sixteen hours per week in the agency plus a two-hour on campus seminar. PREREQ: HSR 304 or consent of instructor. COREQ: HSR 430.

HSR 305 Assessment and Appraisal in Mental Health (3,0,3) Use and interpretation of assessment and appraisal instruments and procedures in mental health services, e.g., psychological, educational, functional, and environmental. PREREQ: PSY 100 and junior standing.

HSR 306 Introduction to Gerontology (3,0,3) The field of gerontology; eclectic introduction to basic concepts of aging; examination of processes of aging; social aspects of aging; major policies and programs affecting older persons.

HSR 314 Death, Dying, and Grief (3,0,3) Major topics from an interdisciplinary perspective; attitudes and practices; experience of dying and grieving; medical, legal, and ethical issues; children and death; suicide, violence, and mass death; funeral practices; caring for the dying and the survivors; speculation about an afterlife. PREREQ: 6 semester hours in behavioral and/or social sciences.

HSR 321 Mental Health and Aging (3,0,3) Psychological, biological, and social factors affecting mental and emotional functioning in old age; strategies for assessment of and intervention in behavioral disorders; methods to identify and utilize family, community, medical, and long term care support systems. PREREQ: HSR 306 or consent of instructor.

HSR 340 Alcoholism: Issues and Intervention (3,0,3) The field of alcoholism; the acquisition of knowledge, skills, and attitudes required to provide helping services to alcoholics and their families; recognition of the problem; effects, etiology, counseling, treatment, and resources. Designed primarily for alcohol workers in hospitals, industry, rehabilitation, and government and other agencies. Formerly HSR 205.

HSR 351 Survey of Therapeutic Recreation Delivery Systems (3,0,3) Institutions, agencies, and programs providing therapeutic recreation services; health care agency structures and therapeutic recreation designs and programs; functions and effectiveness of therapeutic recreation service delivery. Formerly HSR 252. PREREQ: HSR 250 or consent of instructor.

HSR 352 Therapeutic Recreation: Techniques and Procedures (3,0,3) Concepts and skills required to develop and utilize therapeutic recreation activities in a variety of settings; techniques and methods used in adapting activities for the exceptional individual; screening devices used to detect handicaps; activities with corrective and developmental value; organizing and planning activity programs for particular fields of interest (e.g., cerebral palsy, orthopedic handicap, elderly, and convalescent); basic recreational skills appropriate for children, youth, and adults. PREREQ: HSR 250 or consent of instructor.

HSR 404 Field Experience in Mental Health II (2,16,4) Advanced supervised work experience in a mental health/human services agency providing direct services to clients and patients; program development, management, and evaluation responsibilities and activities. Placements are arranged in settings meeting the student's particular interests and needs. Sixteen hours per week in the agency plus a two-hour on campus seminar. PREREQ: HSR 304 or consent of instructor. COREQ: HSR 430.

HSR 410 Psychosocial Forces in Late Life (3,0,3) Analysis of theory and research on psycho social aspects of aging; age stratification and patterns of interaction among cohorts; influences of family on individual life cycle; implications of retirement demographics after 60; impact of major institutions on older adults. PREREQ: HSR 306 or consent of instructor.

HSR 412 Leadership Skills for Small Groups (3,0,3) Theory and application of leadership skills in Small group situations in organizational and mental health settings. Restricted to students majoring in mental health/human services. PREREQ: HSR 216, junior standing, or consent of instructor. COREQ: HSR 304.

HSR 416 Mental Health Counseling: Principles and Practice (3,0,3) Advanced principles and application of counseling strategies utilized to help individuals improve their mental health functioning. Course assumes student has acquired understanding and skills of basic counseling. PREREQ: HSR 105 or PSY 341.

HSR 430 Human Services Administration (3,0,3) Skills and knowledge involved in effective development and administration of small mental health/human services programs or agencies: organizing, setting goals, and estimating needs, recruiting, selecting, orienting, supervising, and evaluating employees; securing and managing financial resources; evaluating program and majoring in mental health/human services. PREREQ: PAD 300 or consent of instructor. COREQ: HSR 404.

HSR 450 Alcoholism and the Dysfunctional Family (3,0,3) Alcoholism and the family system; needs, problems, dynamics; services and resources available; principles and strategies of family therapy; primary prevention. Formerly HSR 350. PREREQ: HSR 340 or consent of instructor.

HSR 494 Topics: Mental Health (3,0,3) A selected topics or issue of importance in mental health. Offered according to demand and interest of students. Maybe repeated for credit when topics vary.

HSR 499 Independent Study (1-4 sem. hrs.) Directed readings, independent research, or other areas of specific or individual academic interest. Not intended to substitute for any course offered on a regular basis. Written agreement between faculty member and student must be submitted to department chair within first two weeks of semester; elements of agreement to include purpose, objective, instructional activities, time frame, and evaluation procedure. PREREQ: junior standing and consent of instructor.

HSR 500 Multicultural Family Work: Principles and Practices (3,0,3) Best practices of in service delivery to families of young children at risk; importance of parent worker partnerships and shared decision making in assessment, communication/intervention, and evaluation; participation in collaborative super-
HR 502 Positive Guidance Strategies for Early Childhood Practitioners (3,0,3) Positive strategies for effectively handling many behavioral concerns that arise while working with young children with and without disabilities; observation and supervised participation in child development settings. PREREQ: EDU 300 or PSY 220, or equivalent.

Industrial and Engineering Technology
IET

IET 115 Conference Leadership (3,0,3) Group discussion techniques and processes.

IET 117 Introduction to Supervision (3, 0, 3) Functions of supervision; planning, organizing, directing, staffing, controlling, and delegating.

IET 180 Foundations of Industrial Education (3,0,3) Principles, objectives, historical perspective, purposes, and roles of industrial education as related to technological, societal, and educational influences.

IET 181 Instructional Systems Development (3,0,3) Design and development of instructional systems; performance objectives, appropriate content, instructional media, teaching learning strategies, and curricula analysis in specialized industrial education programs at all educational levels.

IET 280 Instructional Methods of Industrial Education (3,0,3) Methods and strategies for the implementation or presentation of instructional systems in specialized industrial education programs at all educational levels. PREREQ: IET 181.

IET 281 Evaluation in Industrial Education (3,0,3) Principles and procedures in evaluating student and teacher behavior including preparation of measuring devices, methods of assessing technical competency, interpretation of standardized tests and introduction to statistical analysis of test data. PREREQ: IET 181.

IET 285 NOCTI Competency Test (3-6 sem. hrs.) National Occupational competency Testing Institute Examination in a specific occupational area. Students must register for examination with an approved NOCTI Testing Center.

IET 286 NOCTI Competency Test (3-6 sem. hrs.) National Occupational Competency Testing Institute Examination in a specific occupational area. Students must register for examination with an approved NOCTI Testing Center.

IET 305 Human Relations in Business and Industry (3,0,3) Techniques of communication, motivation, and conflict resolution; workplace values and cultural diversity.

IET 308 Leadership in the Quality Environment (3,0,3) Role of the team leader in organizations with a total quality culture; developing and maintaining an empowered workforce, effective communication systems, and mission statements; valuing diversity in the team-based organization. PREREQ: IET 305.

IET 312 Descriptive Geometry - CADD Applications (2,2,3) Points, lines, and planes; primary and secondary auxiliary views; revolutions; intersections of surfaces; development of surface; graphical analysis; CAD application in descriptive geometry. PREREQ: IET 212; MAT 118 or MAT 119.

IET 315 Personnel Management (3,0,3) Hiring and training; assignment of work; employee counseling; promotion; wage and salary administration.

IET 341 Integrated Resource Management (3,0,3) This course utilizes the techniques of Enterprise Management. The course will focus on contrast and integration strategies, JIT techniques, integration, application and implementation. PREREQ: IET 321.

IET 380 Organization and Management of Career & Technical Education (3,0,3) Laboratory and equipment planning and maintenance programs, classroom and laboratory management systems; purchasing, storage, dispensing, and inventory control procedures; public relations and COREQ: curricular responsibilities as applied to industrial education programs at all educational levels. PREREQ: IET 181 or consent of instructor.

IET 382 Exceptional Students in Vocational Programs (3,0,3) Adapting vocational school programs to accommodate integration of exceptional students in vocational laboratories; identification of characteristics, curricula, and methodological modifications and supportive services and personnel.

IET 385 NOCTI Competency Test (3-6 sem. hrs.) National Occupational competency Testing Institute Examination in a specific occupational area. Students must register for examination with an approved NOCTI Testing Center.

IET 395 Total Quality Teamwork (3,0,3) Team leader’s role in establishing and maintaining integrated work teams; team designs for knowledge work, assessing and managing team performance, process improvement tools, and organizational support systems. PREREQ: IET 117 or consent of instructor.

IET 487 Teaching Industrial Education Capstone (4,0,4) Practicum approach for improvement of teaching: problems and techniques of planning and implementing instructional systems and teaching strategies. Satisfies instructional internship requirement for teachers who have completed four years of experience.

IET 488 Problems in Educational Leadership (3,0,3) Problems, issues, and trends. Students will complete a paper and present findings in a seminar. PREREQ: IET 280.

IET 496 Instructional Internship (8 sem. hrs.) Orientation/exploration or preparation level classroom experiences through observing, planning, and teaching under supervision of an experienced industrial education teacher; conferences and seminars.

Information Systems
IFS

IFS 105 Introduction to Business Computing (3,0,3) Application of computer hardware, software, and computing techniques to common business problems and activities; microcomputers and business productivity packages including word processors, spreadsheets, databases, and other systems and applications software; extensive hands-on work in a graphical user environment.

IFS 210 COBOL Programming I (3,0,3) Computer software design and programming using the COBOL language; fundamentals of problem analysis, program design, and program coding and testing; programming techniques and language syntax for developing computer based business systems. PREREQ: IFS 110 or consent of instructor; sophomore standing.

IFS 211 COBOL Programming II (3,0,3) Development of systems of COBOL programs to implement business applications software for data entry, editing and validation, file creation and maintenance, file updating, and file inquiry and report writing; computer systems facilities, e.g., file and database structures, access methods, and control language. PREREQ: IFS 210 or consent of instructor; sophomore standing.

IFS 300 Management Information Systems (3,0,3) Principles of MIS designed to introduce students to the fundamentals of Management Information Systems and to apply problem-solving skills in Excel, Access, and Web development. PREREQ: Junior standing, STA 212 Statistics I and demonstrated competency in Word, Excel and PowerPoint e.g., completion of IFS 105 or OST 111 and OST 214 or CSC 150 or equivalent transfer work or placement.

IFS 305 Advanced Business Programming (3,0,3) Computer software design and programming in an applications development environment; systems design, programming techniques, and language syntax for developing computer based business systems; programming system methodologies. PREREQ: IFS 110.

IFS 310 Structured Analysis & Design (3,0,3) The systems development life cycle; systems analysis and general design; analysis strategies, tools, and techniques for documenting current systems and developing proposed systems; systems modeling, data modeling, design criteria, cost/benefit trade-offs, and project management; development of a comprehensive systems analysis project. PREREQ: IFS 110 and junior standing.
IFS 320 Database Management Systems (3,0,3) Concepts and techniques of data organization and access; basic data structures, file organization and processing, database modeling and processing, database management systems, database analysis and design, data administration, and implementing databases in a client/server architecture. PREREQ: IFS 302 and junior standing.

IFS 330 IT Project Management (3,0,3) This course provides students knowledge and skills pertaining to IT Project Management. It exposes students to the knowledge requirements for managing information technology projects and fosters development of skills pertaining to the use of computer software for project management. PREREQ: Junior standing or consent of chair.

IFS 402 Programming for E-Commerce (3,0,3) Employ technologies, tools, and practices for development of corporate Intranets and the Internet for information management and electronic commerce; coverage of internet working technologies, site design, content development languages and components, and data management techniques; development of web-based sites for business and commercial operations. PREREQ: IFS 305 or equivalent; junior standing.

IFS 410 Advanced Analysis and Design (3,0,3) Systems design and implementation; design strategies, tools, and techniques for developing computer based systems; application of systems analysis, systems design, and systems development software to a systems development project. Open only to students certified as majoring in business or with consent of instructor. PREREQ: INF 260, IFS 310; junior standing.

IFS 420 Knowledge Management & Enterprise Applications (3,0,3) This course explores strategic knowledge management and its applications in business organizations. It also focuses on enterprise systems that facilitate the planning and use of organizational databases to implement decision support systems, data warehousing and data mining systems and executive support systems to improve organizational performance. PREREQ: Junior Standing; certified major in information systems or consent of chair. 

IFS 430 Workflow Design and Management (3,0,3) This course provides learners a managerial introduction to ideas pertaining to the analysis, design and management of both organizational and inter-organizational business processes. It focuses on workflow management issues at the individual, group and organizational levels. Business methodologies and practices from industry such as business process reengineering, customer relationship management, and supplier chain management are used to contextualize theoretical ideas pertaining to process analysis and workflow management. The relationship between process innovation methods and strategic business models is also explored and learners are exposed to software and optimization tools pertaining to process modeling and workflow simulation. PREREQ: Junior Standing; certified major in information systems or consent of chair.

IFS 440 Global Information Technology Management (3,0,3) This course provides insight into issues relating to international information systems that serve global markets and facilitate expansion and entry of businesses into global information systems and the management of international outsourcing projects are also emphasized. Cross-cultural and ethical issues pertaining to international information systems are emphasized. PREREQ: Junior standing; certified major in information systems or consent of chair.

IFS 485 Strategic Information Systems Management (3,0,3) This course enables future managers of MIS to better utilize information technologies for competitive advantage. It also focuses on managerial techniques for setting the direction for organizational IT resource planning and the development of IT policies and strategies for complex business environments. By integrating pertinent theories and business cases the following topics will be explored: effects of IT on competition; inter-organizational systems; electronic supply chain management; customer relationship management; strategic business reengineering; enterprise resource planning (ERP); outsourcing; IS planning methods; and methods for the control of organizational IT resources. This course serves as the capstone course for the Information Systems major in Business Administration. PREREQ: Senior standing; certified major in information systems or consent of chair. Should be taken within the last 15 hours of program.

IFS 494 Topics: Information Systems (3,0,3) Selected topics in computer based information systems. Offered periodically with topics announced in advance. Open only to students certified as majoring in information systems. May be repeated to a maximum of 6 semester hours. PREREQ: Senior standing; certified major in information systems.

IFS 499 Independent Study: Information Systems (3,0,3) Student investigation of a topic or completion of a project. Meeting times arranged with instructor. Open only to students certified as majoring in information systems. PREREQ: IFS 305; senior standing; certified major in information systems; consent of instructor.

Informatics

INF

INF 110 Business Programming (3,0,3) Strategies, techniques, and tools for professional programming in a business environment; problem definition, software design, program design, and system implementation; development of systems of programs to implement common business applications.

INF 120 Elementary Programming (3,0,3) An elementary introduction to programming for those with no previous programming experience. Emphasis on understanding how to read and write basic procedural programs, and on understanding the concepts of algorithm and execution.

INF 186 Elementary Web Design (3,0,3) An introduction to web design and development for majors outside the informatics fields. Web page creation and HTML; site organization and best practices; introduction to cascading style sheets. No credit after INF 286.

INF 260 Object-Oriented Programming I (3,0,3) Elementary object-oriented programming concepts and practice; types, decisions, loops, methods, arrays, classes; design and problem-solving. An intensive introduction intended for students with programming experience. PREREQ: C or better in INF 110 or INF 120. COREQ: INF 260L.

INF 260L Object-Oriented Programming Laboratory (0,1.5,1) Laboratory to accompany INF 260 in which students gain hands-on experience in programming and using programming tools such as debuggers. COREQ: INF 260.

INF 288 Introduction to Databases (3,0,3) Core concepts for the design, creation, and manipulation of relational databases. Analysis of data requirements, conceptual modeling, definition of the relational model, relational database design and normalization, and database implementation; manipulation of relational databases using relational algebra with SQL. PREREQ: INF 110 or 120.

INF 284 Intro to Networks and Data Communication (3,0,3) Introduction to computer networking; data communications; data transmission, data encoding, data link control; communications network technologies; network protocols; wireless networking; network server configuration; and planning and deploying a local area network. Open only to students certified as majoring in business or with consent of instructor. PREREQ: INF 110 or INF 120.

INF 286 Introduction to Web Development (3,0,3) An introduction to web design and development for majors in the informatics fields. Web page creation and HTML; site organization and best practices; e-business planning, models and strategies; overview of SML and CSS; introduction to client-side and server-side programming. PREREQ: C or better in INF 110 or INF 120.

INF 394 Intermediate Topics: Informatics (3,0,3) Various topics in Informatics. PREREQ: varies with topic (see Schedule of Classes).

International Programs

INTL

INTL 300 International Service Learning Experience (1-3,0,1-3) Volunteer community service work outside the United States as part of an NKU team. Includes preparatory seminars and follow-up meetings. PREREQ: ENG 101, consent of instructor, and student must apply to the Office of International Programs. May be repeated twice. Graded Pass/Fail.

Italian

ITA

ITA 101 Elementary Italian I (3,1,4) Introduction to grammar, pronunciation, and vocabulary; practice in speaking. A general education course (humanities).
ITA 102 Elementary Italian II (3,1,4) Continuation of ITA 101, additional grammar study, pronunciation drill, and new vocabulary; further practice in speaking and reading. A general education course (humanities). PREREQ: ITA 101 or equivalent.

ITA 201 Intermediate Italian I (3,0,3) Review and extension of basic language skills acquired in ITA 101 and 102; reading and discussion of cultural and literary subjects. A general education course (humanities). PREREQ: ITA 102 or equivalent.

ITA 202 Intermediate Italian II (3,0,3) Continuation of grammar review and enhancement of language skills begun in ITA 201; reading and discussion of cultural and literary subjects. A general education course (humanities). PREREQ: ITA 201 or equivalent.

JPN 101 Elementary Japanese I (3,1,4) Oral-aural approach to Japanese language, pronunciation, vocabulary, grammar; kana syllabary writing system. A general education course (humanities or non-western).

JPN 102 Elementary Japanese II (3,1,4) Continuation of JPN 101. Further command of grammar and expansion of vocabulary in conversational Japanese; introduction of additional Chinese characters for reading comprehension and writing. A general education course (humanities or non-western). PREREQ: JPN 101 or equivalent.

JPN 180 Elementary Individualized Instruction in Japanese (1,0,1) Individual work for students desiring additional instruction in grammar, pronunciation, vocabulary and cultural topics. May be repeated once for credit. PREREQ: JPN 101 or equivalent and consent of instructor.

JPN 201 Intermediate Japanese I (3,0,3) Review of pronunciation, vocabulary, grammar and syllabary writing system introduced in JPN 101-102; introduction of advanced structural patterns and cultural influences of the language. A general education course (humanities or non-western). PREREQ: JPN 102 or equivalent.

JPN 202 Intermediate Japanese II (3,0,3) Continuation of JPN 201; additional practice in language structural patterns and cultural influences. A general education course (humanities or non-western). PREREQ: JPN 201 or equivalent.

JPN 280 Intermediate Individualized Instruction in Japanese (1,0,1) Individual work for students desiring additional instruction in grammar, pronunciation, vocabulary and cultural topics. May be repeated once for credit. PREREQ: JPN 201 or equivalent and consent of instructor.

Japanese

JOU

JOU 100 Media Literacy (3,0,3) Fundamental concepts of mediated communication; analysis of roles, functions, and influence of media on individuals and society. Same as EMB 100.

JOU 110 Etymology (3,0,3) Origins, background, and fundamental value of words as a communication medium.

JOU 130 Newswriting I (3,0,3) Introduction to fundamental reporting methods, various styles of newswriting, the vocabulary of the profession, the role of the journalist in society, and the workings of newspapers, both daily and weeklies. PREREQ: ACT English score of 20 or higher and ENG 101.

JOU 230 Newswriting II (3,0,3) Application of fundamental reporting and writing techniques to a variety of complex journalistic story forms: news stories and features, press releases, and radio and TV news. PREREQ: JOU 130.

JOU 262 Audiovisual Production (2,4,3) Techniques for producing sound and visual informational programs; concept development, scripting, storyboarding, and production using cameras, recorders, projectors, and other production equipment. PREREQ: JOU/RTV 100.

JOU 265 Broadcast News Writing (3,0,3) Principles and practices of writing and editing news for the electronic media; development of an effective broadcasting style, conciseness, and accuracy for hard news and features; basic reporting and interviewing techniques, electronic news gathering, rewriting, editing, and compiling. PREREQ: JOU/RTV 100 and JOU 130.

JOU 296 Practicum: Journalism (0,4-12,1-3) Academically supervised and evaluated on the job experience working on campus for student media. A maximum of 6 semester hours of communication practicum is applicable toward the major in journalism. PREREQ: JOU 130.

JOU 297 Advanced Practicum: Journalism (1-2 variable) Academically supervised and evaluated on-the-job experience working on campus for student media. A maximum of 5 hours of Advanced Practicum may be taken. PREREQ: JOU 296.

JOU 321 Publication Skills (2,4,4) Introduction to and application of publication design and production skills for journalists and journalism related professionals; desktop publishing and other aspects of computer based systems related to fundamental word processing, typography, graphics, page makeup, and publication production. PREREQ: JOU/RTV 100.

JOU 325 Photojournalism (3,0,3) Photo communication and photojournalism as practiced by newspaper and magazines; use of the camera as a tool of modern journalism. PREREQ: JOU 100.

JOU 330 Public Affairs Reporting (2,2,3) In-depth reporting of government activities, community issues and events, and specialized topics, e.g., business and medicine. PREREQ: JOU 130.

JOU 331 Advanced Reporting: Specialties (3,0,3) Reporting for special interests and/or about specially focused subject matters in both hard news and personal column formats. PREREQ: JOU 130.

JOU 332 Advanced Reporting: Precision Journalism (3,0,3) Trends in and methods of incorporating statistical and social science research techniques into reporting practices. PREREQ: JOU 230.

JOU 335 Women in Mass Media (3,0,3) Women and their roles as professional communicators, past and present, in the various media; newspapers, magazines, radio/TV/film, and advertising.

JOU 340 Feature Writing (2,2,3) Freelance and staff writing for magazines, house organs, and other publications. PREREQ: ENG 101 and JOU 230.

JOU 346 Copy Editing (2,2,4) Instruction and practice in newspaper and magazine copy desk work; editing, rewriting, and page makeup and layout. PREREQ: JOU 321.

JOU 360 Interviewing (3,0,3) Theory and principles related to a variety of interviewing settings: employment, information, and advising; role of interviewer and interviewee; use of role playing; outside class exercises such as real interviews and written reports. Same as RTV 365 and SPE 360.

JOU 370 Principles of Advertising (2,2,3) Processes and practices of advertising, conception, organization, market research, copy writing, ad layout and production, media selection and scheduling, and assessment of impact. PREREQ: JOU 100.

JOU 371 Advertising Copy Writing (2,2,3) Principles and practice in writing effective advertising copy in printed media and broadcast. PREREQ: JOU 370.

JOU 374 Advertising Problems and Policies (3,0,3) Historic and present problems in advertising; application of copy writing techniques; case study approach. PREREQ: JOU 370.

JOU 385 Law of Mass Communications (3,0,3) Basic legal concepts and issues affecting mass communication; constitutional law, the First Amendment, libel, slander, invasion of privacy, copyright, the FCC and its regulation of broadcasting, legal access to the media, and the use of classified information by the media. PREREQ: JOU 100 or junior standing.

JOU 396 Internship: Journalism (0,1-5,3) Selected placement, for students declared as majoring or minoring in journalism, in off campus newspapers, public relations/advertising agencies, or other employers of communication profes-
JUS 200 Police in America (3,0,3) Overview of the criminal justice system; organization and operation of police, courts, and corrections; race, ethnicity, gender, and criminal justice decision making; current trends and future prospects. A general education course (social sciences).

JUS 201 Corrections in America (3,0,3) An interdisciplinary examination of all areas of corrections in the United States informed by law, psychology, sociology, and public policy. Topics explored include history and philosophy of punishment, prisons and jails, institution programming, management of various offender populations, incarceration trends, intermediate sanctions, and parole.

JUS 203 The Criminal Court System (3,0,3) Analysis of the American courts; structure, functions, and roles of incumbents in the courts; emphasis on political and economic contexts within which the court works. Includes survey of research on American legal system.

JUS 204 Criminal Investigation (3,0,3) Kinds, degrees, and admissibility of evidence; collection and handling of evidence; introduction to forensics and criminalistics; application of investigative techniques to specific offenses; types of investigations such as wire tapping, undercover, and sting operations; current trends and future prospects.

JUS 205 Criminal Evidence (3,0,3) Description and analysis of various evidentiary rules that impact on police investigations and case presentations including admissibility and weight of evidence, hearsay, privileged communications, presumptions and proof, eyewitness identification, opinion and expert testimony, evidence unconstitutionally obtained. PREREQ: JUS 101.

JUS 210 Legal Research (3,0,3) Methods of research in establishing authoritative legal opinion and the processing of legal activities.

JUS 215 Private Sector Security (3,0,3) Overview of the American private police system; historical development, trends in private security; organizational structure; career opportunities, and philosophical differences between security and policing. PREREQ: JUS 101.

JUS 220 Liability and Ethics in Criminal Justice (3,0,3) Civil and criminal liability of criminal justice personnel; current trends in litigation; alternatives to litigation; lawsuit prevention; moral foundations of administration of justice in the ethos of a republic; conflicts and dilemmas revolving around accountability, authority, and power. PREREQ: JUS 101.

JUS 231 Race, Gender, and Crime (3,0,3) Political formulation of race and gender; race and gender issues related to criminality, victimization, prosecution; adjudication, sanctions, and employment within the legal system; antecedents of contemporary practice; prospects for change. A general education course (race/ gender perspective).

JUS 294 Special Topics (3,0,3) Intensive study of a specific or special issue in law enforcement or criminal justice conducted in a seminar fashion or through independent study. Topics vary as new issues arise. PREREQ: JUS 101.

JUS 302 Criminal Law (3,0,3) Major crimes; classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses; common law and adaptations. PREREQ: JUS 101 or 203.

JUS 303 Criminal Procedure (3,0,3) Leading constitutional cases on criminal justice; Fourth, Fifth, and Sixth amendments to the Federal Constitution; nature and application of the Bill of Rights to the states; search and seizure, confessions and admissions, and right to counsel and speedy trial. PREREQ: JUS 101 or 203.

JUS 310 Police Management (3,0,3) Organization and administration as applied to operational services, patrol, criminal investigation intelligence and vice units, juvenile units, and traffic administration. PREREQ: JUS 101 or JUS 200.

JUS 311 Police in the Community (3,0,3) Collaboration between police and community to identify and solve community crime problems; strategies and procedures to incorporate community opinion into policing and management; methods of increasing community responsibility in law enforcement. PREREQ: JUS 101 or JUS 200.

JUS 312 Institutional Corrections (3,0,3) Legal requirements, management issues, and proper procedures in administering corrective operations in the U.S. PREREQ: JUS 101 or 201.

JUS 313 Rights of the Convicted (3,0,3) Overview of the American correctional system; law of sentencing; corrections; constitutional rights of prisoners; laws, cases, significant changes in judicial policy toward prison litigation; legislative trends toward curtailment of prisoner's rights and benefits. PREREQ: JUS 101 or 201.

JUS 315 Criminal Justice Research Methods (3,0,3) Application of basic research methodologies for criminal justice. Topics include research design, sampling, validity, reliability, experimental designs, with a primary emphasis on survey and evaluation research techniques. PREREQ: JUS 101.

JUS 317 Perspectives on Crime (3,0,3) A multidisciplinary approach to understanding the theories, issues and traditions underlying criminal justice and criminal behavior; biological, psychological, economic, and sociological theories of crime; crime measurement. PREREQ: JUS 101 or PSC 100.
JUS 318 The African American, the Law and the Courts (3,0,3) Course provides an analysis of the legal development and status of African Americans from slavery to citizenship as enumerated by the U.S. Constitution and interpreted by the U.S. Supreme Court. PREREQ: JUS 302 or PSC 100.

JUS 319 Criminal Justice in Film (3,0,3) The media play important roles in shaping public perceptions of criminals and criminal justice professionals as well as public attitudes towards crime, violence, and “appropriate” methods of social control. This course is intended to enhance awareness and understanding of accurate and inaccurate filmic depictions of criminal justice. PREREQ: JUS 101.

JUS 320 Advanced Crime Scene Technology and Criminalistics (3,0,3) Advanced criminal investigation techniques focusing on criminal profiling, DNA, forensic aspects of firearms examination, arson and explosives, illicit drugs and toxicology. Investigating violent deaths, sexual crimes and ritualistic crimes including autopsy/coroner investigations. Bloodstain pattern interpretation, forensic pathology and forensic psychology will also be addressed. PREREQ: JUS 204.

JUS 321 Black Women, Crime and Politics (3,0,3) Examines the role of women of African descent in America, their history from slavery to the present and their impact on crime and politics. Discussion about the role of women of African descent in Africa prior to slavery in America and their social, political, and legal history toward citizenship. PREREQ: JUS 101.

JUS 333 Careers in Criminal Justice (3,0,3) Overview of various career options and career planning in criminal justice. PREREQ: JUS 101.

JUS 339 Applied Corrections (3,0,3) This course is designed to provide the students with experience in providing correctional options for offenders. Specific topics will include: the assessment of offenders, what works and what doesn’t in reducing recidivism among offenders, and examining substance abusing offenders in a correctional context. PREREQ: JUS 101.

JUS 351 Financial Investigations (3,0,3) An examination of the history, scope, and method of control of organized and white collar crime. Cultural and social implications are explored. PREREQ: JUS 101.

JUS 400 Juvenile Justice (3,0,3) Structure and format of the juvenile justice system; police, courts, and corrections; analysis and description of the organizational structure of each of the subsystems of the justice process; introduction to juvenile justice research findings. PREREQ: JUS 101.

JUS 401 Correctional Rehabilitation (3,0,3) An overview of correctional counseling strategies and techniques; theoretical frameworks; diagnostic and classification schemes; principles of confidentiality; characteristics of program effectiveness. PREREQ: JUS 101 or 201.

JUS 402 Alternatives to Incarceration (3,0,3) A multidisciplinary approach to studying alternatives to incarceration. The history of probation, parole, and the emergence of intermediate sanctions are explored. Topics include boot camps, electronic monitoring, drug courts, halfway houses, intensive supervision. Finally, empirical research evaluating the effectiveness of these alternatives will be discussed. PREREQ: JUS 101 or 201.

JUS 409 Alternative Dispute Resolution (3,0,3) Victim/offender mediation and related strategies; principles of restorative justice including restitution, reconciliation, and empowerment; negotiation techniques and mediator styles; history and organization of mediation programs. PREREQ: JUS 101.

JUS 428 Crime Across the Life Course (3,0,3) The life course paradigm includes examination of sociology, psychology, and behavioral genetics to investigate the initiation, escalation, duration, and termination of the criminal career. The importance of genetics and biology, abuse in infancy and childhood, the role of parents and peers in adolescence, and the causes of de-escalation will be discussed in examining the offending trajectory and turning points of criminals. PREREQ: JUS 101.

JUS 429 Violence Against Women (3,0,3) This course is designed to inform you about the workings of the criminal court system in relation to violence perpetrated on women. The course will critically analyze the goals of the system, how the participants contribute to those goals and the effectiveness of the system in preventing violence. PREREQ: JUS 101.

JUS 430 The Politics of Criminal Justice (3,0,3) Crime as a political issue; political ideology and response to crime; lawbreaking as political protest and political violence; political trials; legislation of morality. PREREQ: JUS 101 or PSC 100.

JUS 494 Special Topics: Justice Studies (3,0,3) Intensive study of a specific topic or issue in criminal justice. Topics vary as new issues arise. May be repeated when topics vary. PREREQ: JUS 101.

JUS 496 Internship: Justice Studies (1-15 sem. hrs.) Supervised field-work in one of four areas: (1) law enforcement, (2) courts and law, (3) corrections, or (4) support services. Offered on a pass/fail basis. PREREQ: JUS 101; 3 additional semester hours of justice studies coursework; and consent of intern coordinator.

JUS 499 Readings: Justice Studies (1-3 sem hrs) Specialized reading or primary research interests completed through independent study at the direction of a specific instructor. May be repeated as projects vary. PREREQ: JUS 101; 3 additional semester hours of justice studies coursework and consent of intern coordinator.

Learning Assistance Programs

LAP 090 Academic Assistance (1,0,1) Supplementary instruction paired with selected general education and developmental courses. May be repeated for credit when paired with different courses. Offered on a pass/fail basis. Not applicable toward graduation.

LAP 091 Reading Workshop (3,0,3) Practice and instruction in reading and reading appreciation; literate behaviors: book selection; reading strategies, processes, comprehension; critical and creative response to materials read. Not applicable toward graduation.

LAP 110 Critical Reading (3,0,3) Development of critical reading strategies (including analysis, synthesis, an devaluation); cultural literacy; contemporary themes through readings from the natural sciences, sociology, anthropology, psychology, literature, and the arts. Provides preparation for general education courses in a variety of disciplines.

LAP 120 Evaluating Sources (3,0,3) Instruction in information literacy and research techniques; analyzing research questions and information needs, gathering and critically evaluating source materials, and effective selection of sources; editorial and discipline related perspectives, objectivity, credibility, and bias in source materials. Provides preparation for all courses requiring library research.

LAP 201 Tutoring in Learning Assistance Center (1,0,1) Administering and interpreting reading and writing tests; methods of teaching writing, reading, and study skills. Students receive hands on experience in Learning Assistance Center. Designed for prospective teachers and students interested in peer tutoring at NKU. Recommended for students who work as tutors in Learning Assistance Program.

LAP 210 Bookscapes (3,0,3) Introduction to the world of contemporary tradebooks, fiction and non-fiction. Students read tradebooks and learn how to engage with in-depth discussions of these books in an egalitarian, book-discussion-club atmosphere.

Industrial and Labor Relations

LAS 300 Introduction to Labor Relations (3,0,3) Development, structure, and process of American labor relations; evolution and origins of labor unions, internal and external responses to their environment, major legislative and judicial decisions affecting labor management relations, and the collective bargaining process; current and anticipated developments. PREREQ: junior standing.

LAS 301 Labor-Management Negotiations (3,0,3) Practice and theory of collective bargaining and negotiations in the U.S. private sector. Students will be expected to participate in simulated negotiations. PREREQ: LAS 300.
LAS 302 Contract Administration and Dispute Settlement (3,0,3) Day-to-day administration of a labor agreement; legal framework, the grievance procedure, role of arbitration; informal dispute resolution; labor management, cooperative efforts. PREREQ: LAS 300.

LAS 303 Labor Law (3,0,3) Legal and administrative framework for labor management relations; role of the courts; the NLRB and other administrative agencies, decisions, and procedures. PREREQ: LAS 300.

LAS 304 Wages and Benefits (3,0,3) Economic impact of wages and benefits on the labor management process; estimating the cost of the labor contract, benefits law, and effects of wages and benefits on the economy. PREREQ: LAS 300.

LAS 320 Problems in Labor Law (3,0,3) New developments in labor law, protection of labor legislation (Fair Standards Act, Occupational Safety and Health Act, Worker's Compensation, the Equal Opportunity Employment Act), and current judicial and administrative interpretations of existing legislation. PREREQ: LAS 300 and LAS 303.

LAS 490 Labor Relations Capstone (3,0,3) Conflict resolution, consideration of case literature on collective bargaining and relation of this literature to experiences observed at actual arbitrations and negotiations. PREREQ: Open only to students certifying a major in business; senior standing and LAS 300, LAS 303, LAS 304.

LAS 494 Topics: Labor Relations (3,0,3) Study of as elected contemporary area in labor relations. Possible topics might include, but are not limited to: theories of the labor movement, manpower management, ethical principles, and role of supervision. PREREQ: LAS 300.

LAS 496 Practicum: Industrial & Labor Relations (3,0,3) A work-study program to provide students with an opportunity to observe and participate in an area of labor relations to gain a realistic appreciation for the orientation, procedures, and problems encountered by management, labor, and government in the conduct of industrial relations. Includes are search paper drawn from field work experience. PREREQ: LAS 300, LAS 301, and LAS 302 and junior standing.

Latin

LAT 101 Elementary Latin I (3,0,3) Introduction to language and culture of ancient Rome designed for beginning students. A general education course (humanities).

LAT 102 Elementary Latin II (3,0,3) Continuation of LAT 101. A general education course (humanities). PREREQ: LAT 101 or equivalent.

LAT 201 Intermediate Latin I (3,0,3) Review of grammar and vocabulary in LAT 101-102; introduction of advanced constructions in context of readings and cultural study. A general education course (humanities). PREREQ: LAT 102 or equivalent.

LAT 202 Intermediate Latin II (3,0,3) Continuation of LAT 201; practice with advanced grammatical constructions and translation of literary selections. A general education course (humanities). PREREQ: LAT 201 or equivalent.

LAT 280 Topics in Latin Language and Literature (1-3,0,1-3) Wide variety of authors, genres, and themes in Latin literature or specific problems in Latin grammar and style. May be repeated for credit once as topics vary. PREREQ: LAT 102 or equivalent.

Organizational Leadership

LDR 480 Organizational Leadership Capstone (3,0,3) This course examines classical and contemporary theory of organizations and organizational behavior. It seeks to reveal organizational purpose, and how and why people in organizations respond to their environment. Classes are highly interactive, with emphasis on experiential discussion, life-centered workshops, student presentations, and case analyses. The course is restricted to senior students in the BOL and BOS major or by special agreement. PREREQ: IET 395 or HSR 412

Library Science

LSC 190 Topics: Public Libraries (3 sem. hrs.) Public library trends, reader and technical services issues, management topics, preservation and conservation, automation developments, and other current issues. Topics will vary and will be selected from the above list. Days or evenings, summer.

Developmental Mathematics

MAH

MAH 080 Mathematics Assistance (1,0,1) Supplementary instruction paired with selected developmental mathematics courses. May be repeated for credit when paired with different courses. Offered on a pass/fail basis. Not applicable toward graduation.

MAH 090 Basic Mathematical Skills (3,0,3) Signed numbers, fractions, decimals, percents, ratio and proportion, measurements, and introduction to algebra. Does not apply toward any graduation requirements.

MAH 091 Elementary Geometry (3,0,3) Lines and angle relationships; parallel lines; constructions; similar and congruent triangles; polygons; right triangles; circles; areas and volumes. Does not apply toward any graduation requirements.

MAH 092 Beginning Algebra (Part I) (1,0,1) Includes material covered in first five weeks of MAH 095. Operations on real numbers, algebraic expressions, linear equations in one variable. Does not apply toward any graduation requirements. PREREQ: A minimum math ACT score of 15 (or SAT or COMPASS equivalent), C or better in MAH 090, or placement by Developmental Math Program.

MAH 093 Beginning Algebra (Part II) (1,0,1) Includes material covered in the second five weeks of MAH 095. Linear equations and inequalities in one variable, applications, graphs and slopes of lines. Does not apply toward any graduation requirements. PREREQ: MAH 092.

MAH 094 Beginning Algebra (Part III) (1,0,1) Includes material covered in the third five weeks of MAH 095. Integer exponents, operations on polynomials, and factoring. Does not apply toward any graduation requirements. PREREQ: MAH 093.

MAH 095 Beginning Algebra (3,0,3) Operations on real numbers, equations and inequalities in one variable, graphs of lines, integer exponents, operations on polynomials, and factoring with emphasis on applications. Does not apply toward any graduation requirements. PREREQ: A minimum math ACT score of 15 (or SAT or COMPASS equivalent), C or better in MAH 090, or placement by Developmental Mathematics Program.

MAH 096 Intermediate Algebra (Part I) (1,0,1) Includes material covered in the first five weeks of MAH 099. Rational expressions and equations, ratio and proportion, variation, and applications. Does not count toward any graduation requirements. PREREQ: C or better in MAH 095 or MAH 094 or placement by Developmental Math Program.

MAH 097 Intermediate Algebra (Part II) (1,0,1) Includes material covered in the second five weeks of MAH 099. Functions, equations of lines, radicals, and rational exponents. Does not apply toward any graduation requirement. PREREQ: MAH 096.

MAH 098 Intermediate Algebra (Part III) (1,0,1) Includes material covered in the third five weeks of MAH 099. Systems of equations, graphs of parabolas and circles, quadratic equations, and applications. Does not apply toward any graduation requirements. PREREQ: MAH 097.

MAH 099 Intermediate Algebra (3,0,3) Rational expressions and equations; ratio and proportion; functions; equations of lines; systems of equations; compound inequalities; linear inequalities in two variables; radicals; graphs of lines, parabolas, and circles; quadratic equations with emphasis on applications. Does not apply toward any graduation requirements. PREREQ: C or better in MAH 095 or placement by Developmental Mathematics Program.
MAT 109 Algebra for College Students (3,0,3) Review of more advanced topics from Algebra II essential for success in MAT 112 and MAT 119. MAT 109 does not count towards general education requirements. PREREQ: C or better in MAH 099 or placement.

MAT 110 Introductory Probability (3,0,3) Enumeration techniques and probability theory. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

MAT 112 Applied Calculus (3,0,3) Applications of differential and integral calculus of one variable to business and the life sciences. Not open to students who have passed MAT 120 or MAT 122. A general education course (mathematics). PREREQ: C or better in MAT 109 or placement.

MAT 114 Finite Mathematics (3,0,3) Linear functions, matrix algebra, linear programming, and probability. Emphasis on applications to business. A general education course (mathematics). PREREQ: C or better in MAT 109 or placement.

MAT 115 Mathematics for Liberal Arts (3,0,3) Appreciation of mathematical ideas applied to problems from the real world; scheduling, voting schemes, apportionment, descriptive statistics, shape and symmetry, fractals, and population growth. For students of the liberal arts. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

MAT 118 Technical Mathematics (3,0,3) Geometry, trigonometry, analytic geometry, vectors, polar coordinates, complex numbers, systems of linear equations; trigonometric, exponential, and logarithmic functions; applications to technology. Not open to students who have passed MAT 120 or MAT 121. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

MAT 119 Pre-Calculus Mathematics (3,0,3) Analytic geometry; algebraic, trigonometric, exponential, and logarithmic functions. Not open to students who have passed MAT 120 or MAT 122. PREREQ: C or better in MAT 109 or placement.

MAT 120 Calculus I (6,0,5) Limits, derivatives, integral, with applications. Recommended for all students interested in mathematics or science. A general education course (mathematics). PREREQ: B or better in MAT 119 or placement.

MAT 121 Calculus IA (3,0,3) Includes material covered in the first half of MAT 120. Limits, derivatives, the chain rule, and applications of the derivative. A general education course (mathematics). PREREQ: B or better in MAT 119 or placement.

MAT 122 Calculus IB (3,0,3) Material of the second half of MAT 120. Definite and indefinite integrals, the Fundamental Theorem of Calculus, applications of integration, calculus of exponential and logarithmic functions. A general education course (mathematics). PREREQ: C or better in MAT 121.

MAT 140 Mathematics for Elementary and Middle Grades Teachers I (3,0,3) Basic concepts of numbers and arithmetic operations; number theory. Open only to students majoring in elementary or middle grades education. PREREQ: C or better in both MAH 097 and MAH 099 or placement.

MAT 141 Mathematics for Elementary and Middle Grades Teachers II (3,0,3) Elements of geometry. Open only to students majoring in elementary or middle grades education. PREREQ: C or better in MAT 140.

MAT 185 Introductory Discrete Mathematics (3,0,3) Number systems important in computer applications, logic, set theory, combinatorics and probability, graph theory. Not open to students who have completed MAT 385. A general education course (mathematics). PREREQ: C or better in MAT 109 or placement.

MAT 220 Calculus II (6,0,5) Integration techniques; infinite series; vectors; vector valued functions. PREREQ: C or better in MAT 120.

MAT 221 Calculus IIA (3,0,3) Integration by parts, numerical methods for approximating integrals, calculus of parametric and polar curves, vectors, equations of lines and planes, calculus of vector-valued functions. PREREQ: C or better in MAT 120 or MAT 122.

MAT 222 Calculus IIB (3,0,3) Integration by parts, numerical methods for approximating integrals, improper integrals, infinite sequences, and tests for convergence/divergence, power series, Taylor and Maclaurin series and applications. PREREQ: C or better in MAT 120 or MAT 122.

MAT 225 Linear Algebra (3,0,3) Vectors, matrix arithmetic, vector spaces, linear transformations, and applications. PREREQ: C or better in MAT 220 or MAT 221.

MAT 240 Geometry for Middle School Teachers (3,0,3) Points, lines, and planes; curves and surfaces; congruence; similarity; parallelism; transformation, tessellations; systems of measure; perimeter; area; volume; angle measure. Appropriate computer software will be introduced. Only open to students majoring in elementary or middle school education. PREREQ: C or better in MAT 141.

MAT 294 Topics: Mathematics (3,0,3) Topics in mathematics or mathematics education. Topics vary. PREREQ: varies with topic (see Schedule of Classes).

MAT 299 Directed Readings/Independent Study (1-3 semester hours) PREREQ: consent of instructor.

MAT 302 Introduction to Higher Mathematics (3,0,3) Essentials of logic; methods of proof; set theory. PREREQ: C or better in MAT 220.

MAT 305 History of Mathematics (3,0,3) Mathematics from ancient times through development of the calculus. PREREQ: C or better in MAT 120.

MAT 310 Elementary Theory of Numbers (3,0,3) Numbers and their representation, divisibility, and factorization; prime numbers; congruences; primitive roots; quadratic reciprocity; diophantine equations. PREREQ: C or better in MAT 302.

MAT 320 Multivariable Calculus (3,0,3) Differentiation of functions of several variables, multiple integrals; vector fields; line and surface integrals; Green's Theorem, Stokes' Theorem, and the Divergence Theorem. PREREQ: C or better in MAT 220.

MAT 324 Mathematical Problem Solving (3,0,3) Heuristics of mathematical problem solving. PREREQ: C or better in MAT 302.

MAT 325 Differential Equations (3,0,3) Ordinary differential equations, with applications. PREREQ: C or better in MAT 220.

MAT 330 Classical Applied Analysis (3,0,3) Fourier series; orthogonal expansions; eigenvalue problems; boundary value problems in ordinary and partial differential equations. Same as PHY 330. PREREQ: C or better in MAT 225 and MAT 325.

MAT 340 Probability II (3,0,3) Further study of topics in STA 250; multivariate distributions, approximations, functions of random variables; additional topics. PREREQ: C or better in STA 250 and MAT 220 (or MAT 222).

MAT 345 Introduction to Geometry (3,0,3) Axiomatic Euclidean geometry; introduction to non-Euclidean geometries. PREREQ: C or better in MAT 302.

MAT 360 Numerical Analysis (3,0,3) Numerical integration, solution of nonlinear equations by iterative processes; functional approximation and interpolation; initial value problems. PREREQ: C or better in MAT 220, MAT 225 and CSC 260.

MAT 375 Applied Mathematical Models (3,0,3) Basic mathematical models arising in biology, psychology, sociology, political science, and decision science; exponential growth, predator-prey, Markov chain, learning theory, linear and nonlinear programming, waiting line, and simulation models. PREREQ: C or better in MAT 120 (or MAT 112) and STA 205 or STA 212 or STA 250.

MAT 380 Combinatorics and Graph Theory (3,0,3) Enumeration via combinations, permutations, generating functions, and recurrence relations; graph theory
with trees, directed graphs, and networks; applications. PREREQ: C or better in MAT 302.

MAT 385 Discrete Mathematics (3,0,3) Propositional and predicate logic; proof techniques; recurrence relations; basic set theory; introduction to graphs, Boolean algebra; finite state machines. PREREQ: C or better in MAT 220 or MAT 222, and CSC 262.

MAT 394 Topics: Mathematics (3,0,3) Topics vary. PREREQ: varies with topic (see Schedule of Classes).

MAT 399 Directed Readings (1-3 sem. hrs.) PREREQ: consent of instructor.

MAT 410 Abstract Algebra I (3,0,3) Basic number theory, including divisibility properties of integers and congruences; introduction to groups, rings, and fields. PREREQ: C or better in MAT 225 and MAT 302.

MAT 415 Abstract Algebra II (3,0,3) Extensive study of one or more of the topics considered in MAT 410. PREREQ: C or better in MAT 410.

MAT 420 Real Variables I (3,0,3) Foundations of calculus; topology of Cartesian spaces; convergence; continuous functions. PREREQ: C or better in MAT 302 and MAT 320.

MAT 421 Real Variables II (3,0,3) Sequences and series of functions; integration. PREREQ: C or better in MAT 420.

MAT 430 Complex Variables (3,0,3) Analytic functions of a complex variable; Cauchy's theorem and Cauchy's formula; power series; contour integrals; conformal mapping; calculus of residues. PREREQ: C or better in MAT 302 and MAT 320.

MAT 483 Cryptology (3,0,3) Cryptology of classical ciphers, mathematical foundations of cryptology, Hill cipher, DES and AES, cryptography of public key cryptosystems. PREREQ: MAT 225 or CSC 362 or CSC 364.

MAT 494 Topics: Mathematics (3,0,3) Topics in mathematics or mathematics education. Topics vary. PREREQ: varies with topic (see Schedule of Classes).

MAT 499 Directed Readings (1-3 semester hours) PREREQ: consent of instructor.

MAT 584 Cryptography (3,0,3) Cryptology of classical ciphers, DES and AES, public key cryptosystems, authentication and cryptographic hash functions. PREREQ: consent of instructor.

MAT 594 Topics: Mathematics (3,0,3) Topics in mathematics and mathematics education. Topics vary. PREREQ: varies with topic (see Schedule of Classes).

Medieval Studies

MDS 201 Introduction to Medieval Culture (3,0,3) Concepts and methods related to study of arts, history, literature, social institutions, and thought of middle ages. Required for medieval studies minor.

MDS 494 Seminar: Medieval Studies (3,0,3) Selected topics in culture of the middle ages; student research on is minor. PREREQ: MDS 201 and

Management

MGT 100 The Business of Management (3,0,3) K.E.T. telecourse covering the basic elements of management, including planning, organizing, motivation, and communication in a variety of business settings. Does not fulfill any requirements for bachelor's degree programs in the College of Business. Not open to seniors with a declared major in any business discipline.

MGT 205 Introduction to Business and Management (3,0,3) Introduction to business firms, their organization, functions, and management in context of global, legal, and ethical environments; business as a setting in which people work, make decisions, and contribute productively to society; management of people, information, and processes to achieve organizational goals. PREREQ: sophomore standing.

MGT 206 Leadership Assessment and Development I (3,0,3) Identify and assess leadership competencies and values. Gather and interpret data assessing strengths and weaknesses and develop an individualized learning plan to maximize use of courses and experiences and to stimulate self-directed learning. Complete career research and service projects to begin developing analytical, networking, oral presentation, writing, leadership, problem solving, and teamwork skills. Open only to pre-management majors. PREREQ: sophomore standing.

MGT 240 Managerial Communications (3,0,3) Writing managerial documents: memos, letters; e-mail; short formal special reports; executive summaries and informal notes to superiors, peers, subordinates. Speaking as a manager through formal and informal addresses, business meetings, news conferences. PREREQ: ENG 101, SPE 101 and sophomore standing.

MGT 300 Behavior in Organizations: Understanding Organizational Life (3,0,3) Overview of the complex organizational, group, and individual processes constituting the internal environment of contemporary business organizations; understanding the dynamics and learning the concepts, theories, processes, and skills suggested by research to underlie effective planning, organizing, interacting, and controlling. PREREQ: junior standing.

MGT 305 Operations Management in Business (3,0,3) Concepts of operations in production and service organizations; application of quantitative and qualitative techniques to quality, human resources, forecasting, inventory, and process improvement problems. PREREQ: MAT 114 and STA 212; junior standing.

MGT 306 Project Management (3,0,3) This course is an introduction to the concepts, tools and techniques of Project Management. The goal is to provide the student with a fundamental knowledge of project planning, budgeting, scheduling, work breakdown structures, risk analysis, project monitoring and project control/termination. Group projects, presentations, class discussions and case exercises will provide the vehicle for developing decision-making, communication, interpersonal and leadership skills that are essential for success in the workplace. PREREQ: MGT 300, MGT 305 and junior standing.

MGT 307 Supply Chain Management (3,0,3) An upper level undergraduate elective designed to familiarize the student with the scope of supply chain management in organizations. Exposure to key dimensions of effective supply chain management, including those related to logistics, purchasing, information systems, asset management, and strategic supply chain configuration will be provided. Focus will be on the key managerial decisions required to effectively design and operate a supply chair. PREREQ: MGT 300, MGT 305 and junior standing.

MGT 310 Managerial Behavior (3,0,3) Human aspects of organizations that contribute to individual and collective effectiveness; practical and theoretical areas of motivation, leadership, and micro and macro aspects of organizational design. PREREQ: MGT 205 and junior standing.

MGT 320 Managing a Diverse Workforce (3,0,3) This course will provide an overview of the theories and concepts of managing diversity. Students will understand the importance of managing a diverse workforce, gain self-awareness of their individual diversity and develop an awareness and skill set for understanding, analyzing, evaluating, and managing diversity issues in the workplace. PREREQ: MGT 300.

MGT 340 Human Resources Administration (3,0,3) Recruitment and selection of labor force; training of employees; management development; wage and salary plans; personnel policies; development of personnel policies consistent with government regulations. PREREQ: MGT 300 and junior standing.

MGT 350 Performance Management (3,0,3) This course will provide students the opportunity to learn the knowledge and skills essential to managing effectively employee performance. Primary topics will include: employee training and development methods, processes of defining and measuring performance as well as providing developmental feedback, and performance-based reward systems. PREREQ: MGT 340 and junior standing.

MGT 360 International Management (3,0,3) Management of the multinational firm; cross cultural issues; differences in attitudes and behaviors, organizational
structure, environmental considerations between domestic and multinational firms; host country subsidiary relations in an international context. PREREQ: MGT 300 and junior standing.

MGT 394 Topics: Management (3,0,3) Specialized topics of student and business community interest. Topics for current offering listed in Schedule of Classes. With adviser's approval may be taken three for elective credit if topics differ. PREREQ: MGT 300 and junior standing.

MGT 406 Leadership Assessment and Development II (3,0,3) Identify and assess competencies and values relevant to leadership at the end of the program. Reflect on the development that has occurred during the program. Develop and implement life-long learning plans for acquiring future needed competencies. Open only to students certified as Management majors. PREREQ: MGT 206, MGT 310, MGT 340 and senior standing.

MGT 410 Managing Organizational Change (3,0,3) Application of theories of organizational change to a variety of business organizations; planning and implementing of organizational change as well as its behavioral aspects; use of simulations, cases, and/or projects to blend theory and practice. Open only to students certified as majoring in business disciplines. PREREQ: MGT 300 and junior standing.

MGT 415 Continuous Quality Improvement in Operations (3,0,3) Advanced operations management approaches to quality; process and productivity improvement in manufacturing, and service and government organizations; use of case studies, exercises, and/or term projects to show application of management and quantitative concepts. Open only to students certified as majoring in business disciplines. PREREQ: MGT 300, MGT 305 and junior standing.

MGT 490 Business Policy (3,0,3) Application of theoretical knowledge to a wide variety of business situations; development of top management viewpoint in developing and assessing corporate strategy; case method and classroom presentations. Open only to students certified as majoring in business disciplines; recommended to be taken during the last 18 semester hours of business coursework. PREREQ: MGT 300, FIN 305, MGT 305, MKT 305, and senior standing.

MGT 496 Internship: Management (0,5,15,1,3) Application of theoretical knowledge in solving business problems through consulting and counseling with business owners; group work in case analysis and problem solving. May be repeated once for credit. Open only to juniors certified as majoring in business. PREREQ: MGT 300 and consent of instructor.

MKT 100 Marketing (3,0,3) K.E.T.: telecourse examining basic marketing concepts, trends, and strategies in a variety of contemporary business organizations. Does not fulfill any requirements for bachelor's degree programs in the College of Business. Not open to seniors with a declared major in any business discipline.

MKT 305 Principles of Marketing (3,0,3) Flow of goods from producer to consumer; demand-stimulated and demand-fulfilling activities of business enterprises; marketing concepts and systems analysis. PREREQ: junior standing.

MKT 306 Sales Management (3,0,3) Managing the sales force and overall marketing and promotional strategy; organization of selling, quotas, territories, expenses, policy changes, and competition. PREREQ: MKT 305 and junior standing.

MKT 307 Retail Management (3,0,3) Retail sub-channel of distribution; role of retailing in meeting consumer and producer needs in distribution; distribution cost analysis at retail level; merchandising, promotion, and control. PREREQ: MKT 305 and junior standing.

MKT 308 Advertising and Promotion (3,0,3) Design, management, and coordination of marketing communications. PREREQ: MKT 305 and junior standing.

MKT 310 Principles of Professional Selling (3,0,3) Strategies, theories, and personal skills involved in professional and effective sales; the role of selling in marketing. PREREQ: MKT 305 and junior standing.

MKT 320 Consumer Behavior (3,0,3) Psychological, sociological, economic, and other dimensions of consumers and their environment. PREREQ: MKT 305 and junior standing.

MKT 340 Business to Business Marketing (3,0,3) The non-consumer marketing world; strategies, techniques, and analytical approaches. PREREQ: MKT 305 and junior standing.

MKT 360 International Marketing (3,0,3) As technologies, ideas and people transfer across national boundaries, organizations are becoming active, competitive participants in a global economy. These developments will mean that more organizations will need marketers with the ability to apply the marketing processes across countries and cultures. This course emphasizes a non-US perspective, SME involvement in international marketing, and alternative trade organizations as a way to develop more global-minded marketing managers who appreciate various dimensions of international business. PREREQ: MKT 305.

MKT 392 Marketing Research (3,0,3) Introduction to role of research in marketing decision making including research designs and methodologies, primary and secondary data collection, and sampling techniques. PREREQ: MKT 305, STA 212, and junior standing.

MKT 394 Topics: Marketing Issues (3,0,3) Specialized topics of faculty and student interest. Topics vary and may include product planning and development, distribution, pricing strategies, services marketing, and international marketing. May be taken three for elective credit if topics differ. PREREQ: MKT 305 and junior standing.

MKT 480 Marketing Strategies and Policies (3,0,3) Decision making related to objectives in performing marketing functions; adjustment of goods and services to consumer demand; simulated competition and case methodology. Open only to students certified as majoring in business or by consent of instructor. PREREQ: MKT 320, MKT 392, and senior standing.

MKT 492 Research: Advanced Marketing Research (3,0,3) Development of advanced marketing research skills and knowledge through lecture/discussion and a field research study. Open only to students certified as majoring in business disciplines. PREREQ: ENG 340 (or OST 311), MKT 320, MKT 392, senior standing, or consent of instructor.

MUS 100 Music Appreciation (3,0,3) Survey of the development of mankind in western civilization through the study of music literature, music history, and basic components of music. For students not majoring in music. A general education course (humanities or fine arts).

MUS 105, 305 Ensemble Accompanying (1-3 sem. hrs. each) Accompanying ensembles, one per semester as assigned. PREREQ: consent of instructor. May be repeated for credit.

MUS 106 Music of World Cultures ((3,0,3) An overview of traditional musics from many cultures and regions throughout the world; examination of music as a cultural phenomenon and its role in the traditional lives of various societies in the twentieth century. A general education course (non-western).

MUS 107 Survey of African-American Music (3,0,3) Music of the present; oral folk tradition; transition to present day works of African-American composers, and their relationships to western and non-western traditions. A general education course (humanities, fine arts, or race/gender).
MUS 108 History of Rock & Roll (3,0,3) Survey of the history, aesthetics, and sociology of rock and roll in the United States from its origins to the present. A general education course (fine arts or humanities).

MUS 109 History of American Popular Music (3,0,3) Survey of the history and development of American popular music from 1940 to the present. A general education course (humanities or fine arts).

MUS 110 Appreciation of Jazz (3,0,3) Jazz, its historical background, and its stylistic development in the U.S. Designed for students majoring in any subject. A general education course (humanities or fine arts).

MUS 120 Introduction to Music Theory (0,3,1) Notational vocabulary and basic reading skills. For students with limited background in music.

MUS 121 Introduction to Aural Skills (0,2,1) Introduction to aural skills: sight singing, dictation, and keyboard harmony.

MUS 122 Theory I (3,0,3) Basic vocabulary of music and its application to harmony, counterpoint, and analysis. Students registering for music theory will be given theory placement tests and assigned to MUS 120 or MUS 122.

MUS 123 Theory II (3,0,3) Continuation of MUS 122, PREREQ: MUS 122.

MUS 124 Aural Skills I (0,2,.5) Sight singing, dictation, and keyboard harmony.

MUS 125 Aural Skills II (0,2,.5) Continuation of MUS 124. PREREQ: MUS 124.

MUS 126 Aural Skills III (0,3,.5) Continuation of Aural Skills sequence. PREREQ: MUS 125.

MUS 127 Aural Skills IV (0,3,.5) Continuation of Aural Skills sequence. PREREQ: MUS 126.

MUS 130 Introduction to Music Literature (2,1,2) Major forms and some important masterworks of western music from the Renaissance through the 20th century; development of listening skills.

MUS 135 Class Piano for Non Music Students I (0,2,1) Group instruction in piano; development of reading, technique, and functional keyboard skills for students not majoring in music.

MUS 136 Class Piano for Non-Music Students II (0,3,1) Intermediate level group instruction in piano; further development of reading technique, and functional keyboard skills for students not majoring in music. Limit 18 per class. PREREQ: MUS 135 or 1 or more years of private piano study, or consent of instructor.

MUS 140 Class Piano I (0,3,5) Group instruction in piano; development of reading, technique, and functional skills helpful for elementary school teachers and others majoring in music.

MUS 141 Class Piano II (0,3,5) Continuation of MUS 140. PREREQ: MUS 140.

MUS 142 Class Piano III (0,3,5) Continuation of MUS 141. PREREQ: MUS 141.

MUS 143 Class Piano IV (0,3,5) Continuation of MUS 142. PREREQ: MUS 142.

MUS 146 Group Voice (1,2,1) Vocal technique; theory and development of the singing voice; posture, breathing, correct tone production, diction, and stage deportment. For students majoring in music.

MUS 147 Harpsichord for Pianists (1,2,1) Technique; introduction to renaissance, baroque, and 20th century repertoire; performance practices; comparison of harpsichord and piano technique and style. Limit four per class. May be repeated for credit. PREREQ: consent of instructor.

MUS 148 Group Guitar (1,2,1) Group instruction in beginning guitar; development of reading, technique, and functional skills helpful for elementary school teachers and others majoring in music.

MUS 149 Organ for Pianists I (1,2,1) Manual and pedal technique, registration, beginning repertoire, service playing. Limit four per class. May be repeated for credit. PREREQ: consent of instructor.

MUS 150 Organ for Pianists II (1,2,1) Advanced manual and pedal technique, registration, advanced repertoire, service playing. Limit four per class. May be repeated for credit. PREREQ: consent of instructor.

MUS 168-189 Applied Music (1-2 sem. hrs.) Private instruction in harpsichord, harp, voice, piano, piano accompanying, organ, guitar, and band and orchestral instruments. Open to students majoring or minoring in music; to other students by permission of music chair. May be repeated for credit. ½ contact hour = 1 sem. hr.; 1 contact hour = 2 sem. hrs. Fees assessed according to contact hours. PREREQ: placement audition.

MUS 196 Recital Review (0,2,0) Students majoring in music, unless excused by the music chair, must register each semester for, and pass, MUS 196. Course requirements are satisfied by certified attendance and review a minimum of 16 approved recitals/concerts per semester (eight during student teaching).

MUS 222 Theory III (3,0,3) Continuation of MUS 123. Advanced contrapuntal and harmonic vocabulary and techniques. PREREQ: MUS 123.

MUS 223 Theory IV (3,0,3) Chromatic vocabulary; extended tonality approached through analysis and composition. PREREQ: MUS 222.

MUS 224 Aural Skills V (0,2,5) Advanced dictation; sight singing and keyboard harmony. PREREQ: MUS 127.

MUS 225 Aural Skills VI (0,2,5) Continuation of MUS 224, with chromatic materials. PREREQ: MUS 224.

MUS 226 Aural Skills VII (0,3,5) Continuation of Aural Skills sequence. PREREQ: MUS 225.

MUS 227 Aural Skills VIII (0,3,5) Continuation of Aural Skills sequence. PREREQ: MUS 226.

MUS 228 Applied Composition I (1 sem. hr.) Private or semi-private instruction in music composition. One half hour lesson per week. PREREQ: placement test; at least 2.50 GPA in music theory/aural skills. Fees assessed according to contact hours.

MUS 229 Applied Composition II (1 sem. hr.) Private or semi-private instruction in music composition. One half hour lesson per week. Maybe repeated for credit. PREREQ: MUS 228. Fees assessed according to contact hours.

MUS 230 History of Music I: Antiquity through Early Baroque (3,0,3) Music in western civilization from the earliest sources to the late 17th century. (ca. 1680). A general education course (humanities or fine arts).

MUS 231 History of Music II: Late Baroque to Mid 19th Century (3,0,3) Music in western civilization from ca. 1680 to ca. 1850. A general education course (humanities or fine arts).

MUS 235 Jazz Harmony/Piano I (0,3,1) Introduction to jazz harmony and jazz piano skills. PREREQ: MUS 143.

MUS 236 Jazz Harmony/Piano II (0,3,1) Advanced study in jazz harmony and jazz piano skills. PREREQ: MUS 235.

MUS 237 Jazz Improvisation I (1,2,2) Application of jazz vocabulary and melodic constructs within the jazz repertoire; ear training through transcription of solos; and memorization of standard jazz repertoire.

MUS 238 Jazz Improvisation II (1,2,2) Continued study of the tools of jazz improvisation; application and study of Bebop vocabulary; transcription of Bebop and Hard Bop solos; memorization of solos. PREREQ: MUS 237.

MUS 241 Applied Methods and Materials: Brass (1,2,1) Class instruction in performance and pedagogy.
MUS 243 Applied Methods and Materials: Woodwinds (1,2,1) Class instruction in performance and pedagogy.

MUS 245 Applied Methods and Materials: Strings (1,2,1) Class instruction in performance and pedagogy.

MUS 247 Applied Methods and Materials: Percussion (1,2,1) Class instruction in performance and pedagogy.

MUS 249 Instruments for Singers, Pianists, and Guitarists (2,0,1) Instrumental techniques, basic transpositions, and fundamentals of pedagogy; instruction in dealing with instruments as a conductor. PREREQ: Music education major or consent of instructor.

MUS 253 Women in Music in Europe and America I: 800-1900 (3,0,3) The role of women as composers, performers, teachers, scholars, and patrons, from the minstrels of the Middle Ages and Convents of the Renaissance, to the concert stages of the early 20th Century.

MUS 254 Women in Music in Europe and America II: The 20th Century (3,0,3) The role of women as composers, performers, conductors, administrators, teachers, scholars, and patrons.

MUS 260 Music Fundamentals and Skills for Classroom Teachers (1,2,3) Designed to train teachers in grades one through six to read music; keyboard, auto harp, and recorder experiences; methods and materials. For students not majoring in music.

MUS 261 Class Piano V (0,3,.5) Continuation of Class Piano sequence. PREREQ: MUS 144.

MUS 262 Class Piano VI (0,3,5) Continuation of Class Piano sequence. PREREQ: MUS 261.

MUS 263 Class Piano VII (0,3,5) Continuation of Class Piano sequence. PREREQ: MUS 262.

MUS 264 Class Piano VIII (0,3,5) Continuation of Class Piano sequence. PREREQ: MUS 263.

MUS 268-289 Applied Music (1-2 sem. hrs. each) Private instruction in harpsichord, harp, voice, piano, piano accompanying, organ, guitar, and band and orchestral instruments. Open to students majoring or minorning in music; to other students by permission of music chair. May be repeated for credit. ½ hr. contact = 1 semester hour, 1 hr. contact = 2 semester hours. Fees assessed according to contact hours. PREREQ: placement test.

MUS 291W Advanced Writing in the Music Performance (3,0,3) Practice in a variety of expository forms common to the field of music; concert review, musical analysis, program notes, press release, journal article, research paper; and development of strong research skills. A general education course (Written Communication II). PREREQ: ENG 101, MUS 122. Open to non-music majors and music majors who have not completed MUS 122 with consent of instructor.

MUS 301 The Northern Corale (0,3,1) Chorale ensemble specializing in choral literature ranging from short ocasions to extended works. For students majoring in voice and in music, and for musically talented general students. May be repeated for credit. PREREQ: audition the first class period.

MUS 302 Chamber Choir (0,6,1) A select choral ensemble specializing in a variety of the best choral literature. For music students, voice students. PREREQ: audition.

MUS 303 Women’s Ensemble (0,3,1) Open to all female students. Performance of a variety of music. No audition necessary. May be repeated for credit.

MUS 304 Opera Workshop (2,2,2) Musical and dramatic principles and techniques required of performers in musical theatre; needs of the singing actor, class presentations of roles and scenes from standard and contemporary operas and musicals. May be repeated for credit. PREREQ: audition.

MUS 305 Ensemble Accompanying (1-3 sem. hrs. each) Accompanying ensembles, one per semester as assigned. PREREQ: consent of instructor. May be repeated for credit.

MUS 306 Vocal Jazz Ensemble (3,0,1) A select choral ensemble specializing in vocal jazz performance and literature; singing in various jazz styles, improvisational singing, microphone techniques, and balance and blend for a small ensemble. May be repeated for credit. PREREQ: audition.

MUS 308 University/Community Orchestra (0,3,1) Orchestral ensemble that rehearses and performs repertoire from the early Baroque to the present. Participation is open to all students, community members, and qualified students of the NKU Preparatory Program. May be repeated for credit. PREREQ: audition and consent of instructor.

MUS 309 Introduction to Music Education (3,0,3) Students examine the teaching profession and schooling as it currently functions in America. Emphasis on the Kentucky Education Reform Act, educational theory, and educational practice. Provides music education majors an overview of the total school music program. Observation and clinical experience required. PREREQ: 48 semester hours as specified in the curriculum contract; at least 2.50 GPA; completion of pre-music curriculum.

MUS 310 Chamber Music Ensembles (1,2,1 each) Participation in several ensembles to study and perform chamber music literature. May be repeated for credit. PREREQ: audition.

MUS 311 Accompanying and Chamber Music (1,2,1) Drill in sight reading; training in listening and anticipating; following and leading; matching tone, color, and mood of the solo part; rescuing a soloist in trouble, and assuming a solo role when appropriate. May be repeated for credit.

MUS 312 Computer Applications for Musicians (2,1,1) Introduction to computer uses for musicians and their art; basic concepts of electronic music, music scoring, part writing, and desktop publishing for musical programs; word processing, spreadsheets, data bases, graphics, and communications; MIDI (musical instrument digital interface); computer ethics. Required in place of EDU 313 for students majoring in music education. PREREQ: MUS 223.

MUS 313 Advanced Electronic and Computer Music Techniques (2,1,3) Computer applications unique to musicians and their art; further development of skills in electronic music, computer music publishing and part writing, and music desktop publishing; advanced MIDI (musical instrument digital interface) techniques and realization of music through computer playback of digitized sampled sound. May be repeated for credit. PREREQ: MUS 312 or consent of instructor.

MUS 314 University Concert Band (0,3,1) Preparation and performance of a wide variety of band literature. May be repeated for credit. Open to all students. NO audition necessary.

MUS 315 Chamber Orchestra (0,3,1) Preparation and performance of traditional and contemporary literature for small orchestra; public concerts and performance for university functions. May be repeated for credit. PREREQ: audition.

MUS 316 Symphonic Winds (0,6,1) Preparation of performance of traditional and contemporary literature for band; public concerts and performance for university functions. Open to all students. May be repeated for credit. PREREQ: auditions.

MUS 317 Jazz Ensemble (0,3,1) Preparation and performance of traditional and contemporary literature for large jazz ensemble; public concerts and performance for university functions. May be repeated for credit. PREREQ: audition.

MUS 318 Brass Choir (0,3,1) Preparation and performance of traditional and contemporary literature for large brass ensemble; public concerts and performance for university functions. May be repeated for credit. PREREQ: audition.

MUS 319 Percussion Ensemble (0,2,1) Preparation and performance of traditional and contemporary literature for large percussion ensemble; public concerts and performance for university functions. May be repeated for credit. PREREQ: audition.
MUS 321 Jazz Arranging I (2,1,2) Study of basic harmonic and melodic analysis, chord construction, rhythms, chord/scale relationships, nomenclature, and voice leading in the jazz idiom. PREREQ: MUS 123, 127.

MUS 322 Jazz Arranging II (2,1,2) Advanced concepts of jazz theory, composition, and arranging. PREREQ: MUS 321.

MUS 324 Orchestration I (3,0,3) Instrumentation and scoring for orchestral choirs and full orchestra. PREREQ: MUS 223 or consent of instructor.

MUS 325 Form and Analysis (3,0,3) Harmonic, contrapuntal, and formal procedure in works of major composers; techniques of musical analysis. Required for all music degrees that have a 300 level theory requirement. PREREQ: MUS 223 and MUS 225.

MUS 326 Materials and Techniques of Music Composition (2,0,2) Exploration of the compositional techniques, resources, and technologies available to composers today; concentration on creative and analytical projects. PREREQ: MUS 223.

MUS 328 Applied Composition III (2 sem. hrs.) Private or semi private instruction in music composition. One hour lesson per week. Fees assessed according to contact hours. PREREQ: MUS 229 and junior standing.

MUS 329 Applied Composition IV (2 sem. hrs.) Continuation of MUS 328. Fees assessed according to contact hours. PREREQ: MUS 328.

MUS 331 Keyboard Literature I (2,0,2) Keyboard literature and its development from the renaissance to the early classical period; performance practices, interpretation, and styles. PREREQ: MUS 230 or consent of instructor.

MUS 332 Keyboard Literature II (2,0,2) Keyboard literature and its development from the middle classical period to the present; performance practices, interpretation, and styles. PREREQ: MUS 331.

MUS 333 Vocal Literature (3,0,3) Solo song repertoire of western world from the troubadours to the present; style, interpretation, and program building. PREREQ: MUS 230-231 or consent of instructor.

MUS 336 Choral Literature (3,0,3) Choral literature from 1450 to the present; stylistic traits, types of compositions; aesthetic considerations. PREREQ: MUS 231 or consent of instructor.

MUS 337 History of Music III: Mid 19th and 20th Centuries (3,0,3) Music in western civilization from ca. 1850 to the present. Required of all students majoring in music as an upper division history and literature course. PREREQ: MUS 230-231.

MUS 339 History of Jazz (3,0,3) Overview of the major stylistic periods of jazz from its origins through the late 1970’s. PREREQ: MUS 130.

MUS 340 General and Vocal Music in the Elementary School (3,0,3) Rhythm band and Orff instruments; review of teaching methods, review of materials in music series, methods and objectives for each grade level, KERA policies and procedures. PREREQ: consent of instructor.

MUS 341 Instrumental Music in the Public Schools (3,2,3) Organization, management, materials, and instruction techniques appropriate to teaching of instrumental music in public education; practicum laboratory experiences in local public schools. PREREQ: MUS 352 or consent of instructor.

MUS 342 General and Choral Music in the Secondary School (3,0,3) Organization and management of a choral/vocal program in grades 7-12; methods and materials for general music, theory, and music appreciation classes. PREREQ: MUS 352 or consent of instructor.

MUS 343 Marching Band Methods (2,1,3) Practical aspects of show charting, music selection, and marching band techniques and styles; organization, discipline, and arranging. Extra class observations will require several Friday evenings. For the prospective secondary band director. Fall. PREREQ: MUS 122-123.

MUS 345 Keyboard Skills I (0,2,1) Developing proficiency in functional keyboard skills; sight-reading, transposition, harmonization, playing by ear, and improvisation. PREREQ: consent of instructor.

MUS 346 Keyboard Skills II (0,2,1) Continued principles and techniques of sight reading, transposition, harmonization, playing by ear, and improvisation. PREREQ: MUS 345.

MUS 347 Harpsichord for Pianists II (2,3,2) Advanced technique; study of renaissance, baroque, and pre classical repertoire; performance practices; figured bass. Limit four per class. May be repeated for credit. PREREQ: consent of instructor.

MUS 348 Piano Pedagogy I (2,2,3) Preschool music programs; survey of philosophies and observation of teaching methods such as Suzuki, Orff, Kodaly, Kindermusik, and Musikgarten. PREREQ: consent of instructor.

MUS 349 Piano Pedagogy II (2,2,3) Elementary level; continuation of philosophies and methods as applied to primary grade children; early keyboard technique; musicianship; survey of teaching materials and music appropriate to this age level; business procedures for the independent music studio. PREREQ: consent of instructor.

MUS 352 Conducting I (1,2,2) Introduction to the craft of conducting. Beat patterns, left hand, entrances, releases, dynamics, terminology, styles of articulation, and baton technique. Instrumental and choral music. PREREQ: MUS 223 or consent of instructor.

MUS 353 Conducting II (3,0,3) Continued refinement of skills developed in MUS 352; score study techniques, terminology, and transposition. PREREQ: MUS 352 or consent of instructor.

MUS 354 Lyric Diction I (3,0,3) A phonetic study of English, Latin, and Italian as utilized by the singer. Readings and performances of song lyrics. PREREQ: MUS 123, 127, and 4 semester hours of MUS 187.

MUS 355 Lyric Diction II (3,0,3) A phonetic study of German and French as utilized by the singer. Readings and performances of song lyrics. PREREQ: MUS 354.

MUS 368-389 Applied Music (1-2 sem. hrs. each) Private instruction in harpsichord, harp, voice, piano, piano accompanying, organ, guitar, and band, and orchestral instruments. Open to students majoring or minoring in music; to other students by permission of music chair. May be repeated for credit. ½ hr. contact = 1 semester hour; and 1 contact hour = 2 semester hours. Fees assessed according to contact hours. PREREQ: placement test.

MUS 394 Special Topics: Music (3,0,3) In-depth study of specialized topics in music. May be repeated for credit up to 9 semester hours when topics vary. PREREQ: junior standing or consent of instructor.

MUS 397 Junior Recital (0,0,0) Students majoring in applied music and music education must give a one half hour junior recital prior to graduation. A recital jury audition must be passed at least one month prior to the public performance. PREREQ: consent of instructor.

MUS 399 Independent Study: Music (1-3 sem. hrs.) Individual creative or research projects; projects, directed by members of the faculty, must be approved before registration. May be repeated for credit. PREREQ: consent of instructor.

MUS 424 Jazz Pedagogy 2,0,2) An in depth study of the techniques, processes, and management of a jazz program in the school setting. PREREQ: MUS 339.

MUS 426 Jazz Styles and Analysis (3,0,3) Capstone course utilizing information from previous courses to better understand the social, musical, and cultural implications of jazz. PREREQ: MUS 238, 322, 339, and 8 semester hours of applied music.

MUS 428 Applied Composition V (2 sem. hrs.) Continuation of MUS 329. Fees assessed according to contact hours. PREREQ: MUS 329.
MUS 429 Applied Composition VI (2 sem. hrs.) Continuation of MUS 428. Fees assessed according to contact hours. PREREQ: MUS 428.

MUS 446 Vocal Pedagogy (3,0,3) Directed readings, discussions and evaluations of vocal pedagogical philosophies; studies of the teaching materials and physical and psychological problems in the teaching of voice; observation of voice lessons and supervised teaching. PREREQ: consent of instructor.

MUS 447 Seminar in Piano Pedagogy (3,0,3) Techniques of major pedagogical philosophies; studies (etudes), methods, exercises, and piano literature as applied to development in piano instruction and performance. PREREQ: consent of instructor.

MUS 448 Piano Pedagogy III (2,2,3) Intermediate level; teaching teens and adults; creative practicing; piano technique; survey of materials and literature appropriate for this level; business procedures for the independent music studio. PREREQ: consent of instructor.

MUS 449 Piano Pedagogy IV (2,2,3) Advanced level; repertoire; philosophies of schools of piano playing; treat pianists and their teaching; productive practicing; performance practices; literature and materials appropriate to this level; business procedures for the independent music studio. PREREQ: consent of instructor.

MUS 469-489 Applied Music (1-2 seem. hrs. each) Private instruction in harpsichord, harp, voice, piano, piano accompanying, organ, guitar, and band, and orchestral instruments. Open to students majoring or minoring in music; to other students by permission of music chair. May be repeated for credit. ½ hr. contact = 1 semester hour; and 1 contact hour = 2 semester hours. Fees assessed according to contact hours. PREREQ: placement test.

MUS 497 Senior Recital (0,0,0) Students majoring in applied music must give a one hour senior recital prior to graduation. A recital jury audition must be passed at least one month prior to the public performance. PREREQ: consent of instructor.

MUS 499 Independent Study: Music (1-3 sem. hrs.) Individual creative or research projects; projects, directed by members of the faculty, must be approved before

Neuroscience NEU

NEU 493 Cognitive Neuroscience Seminar (1,0,1) Serves as a capstone experience for students in the neuroscience minor. Readings and discussions directed at large-scale issues in neuroscience, typically achieved through book review. Intended to stimulate critical thinking and integration of material learned in earlier courses in the neuroscience minor. PREREQ: PSY 311 or consent of instructor.

Nursing Registered Professional NRP

NRP 275 Race, Gender, and Health Issues (3,0,3) Influences of race and gender on health status, health care, and health professions; past and present social, political, and economic factors. A general education course (race/gender). PREREQ: None.

NRP 316L Evaluation of Clinical Performance (0,12,4) Demonstration of cognitive and technical skills in provision of client care under supervision of faculty; use of nursing process as a framework for client care across developmental levels in various settings. PREREQ: admission to RN-BSN program. COREQ: NRP 317L and NRP 401.

NRP 317L Decision Making in Nursing (0,12,4) Demonstration of cognitive and critical thinking skills in making decisions in standardized clinical CAI situations; use of nursing process as a decision making framework. PREREQ: admission to RN-BSN program. COREQ: NRP 316L and NRP 401.

NRP 333 Integrative Health Therapies (3,0,3) Theory, research, and risks and benefits of integrative health therapies. PREREQ: junior standing.

NRP 399 Independent Study: Nursing (1-3 sem. hrs.) Individual readings, research, and/or projects relating to professional nursing practice and developed by students in consultation with faculty prior to registration; written agreement to include purpose, objectives, instructional activities, time frame, and evaluation method. Not intended to substitute for any course offered on a regular basis. PREREQ: consent of instructor and program director prior to registration.

NRP 401 Theories and Concepts of Professional Nursing (2,0,2) Concepts and theories providing the foundation for development of the advanced professional nursing role; relationships between client, nurse, health, and environment to foster congruent role behavior of the registered nurse student and advanced professional nursing practice. PREREQ: admission to RN/BSN program. PREREQ: NRP 316L and NRP 317L.

NRP 410 Nursing Research (3,0,3) Overview of the research process in nursing; historical development of nursing research; role of research in scientific advancement nursing; development of ability to critique clinical nursing research studies. PREREQ or COREQ: NRP 401. PREREQ: STA 205.

NRP 411 Holistic Nursing Assessment (2,0,2) Principles of holistic health assessment of existing and potential client problems with a view toward planning nursing care. PREREQ or COREQ: NRP 401 and NRP 410. COREQ: NRP 413L and NRP 415L.

NRP 413L Nursing Assessment Laboratory (0,2,1) Application of holistic health assessment techniques in the laboratory setting. COREQ: NRP 411 and NRP 415L.

NRP 415L Nursing Assessment Practicum (0,4,2) Application of nursing history and physical assessment techniques in formulating nursing diagnosis for individual clients in a variety of settings. COREQ: NRP 411 and NRP 413L.

NRP 434 Theories in Nursing (3,0,3) Study of the nature of theory development in nursing with emphasis on the evolution of the science of nursing. Evaluation of selected nursing theories as they relate to professional nursing practice. PREREQ: NRP 401 and NRP 410 or permission of program director.

NRP 435 Introduction to Community Health Nursing (3,0,3) Principles of health maintenance, health promotion in community settings; epidemiology, health education, group process, cultural diversity impact on health, contemporary community health problems, policy issues. PREREQ: NRP 401, NRP410, NRP 411, NRP 413L, and NRP 415L; COREQ: NRP 435L.

NRP 435L Community Health Practicum (0,12,6) A variety of community agencies serving a diverse population and defined risk groups; teaching, screening, case finding, referral, and evaluation of community health services. COREQ: NRP 435.

NRP 441 Nursing Leadership (3,0,3) Nursing leadership concepts and functions in nursing environments; selected theories of leadership and management; collaboration for decision making and effecting change for experienced nurses. PREREQ: NRP 401, 410, 411, 413L, 415L, 434 and NRP 435/435L. COREQ: NRP 441L.

NRP 441L Nursing Leadership Practicum (0,12,6) Integration of didactic content in a practice setting for experienced nurses; clinical experience in a selected healthcare agency in a leadership role with an approved preceptor. PREREQ: NRP 401, 410, 411, 413L, 415L, 434 and NRP 435/435L. COREQ: NRP 441, NRP 455.

NRP 455 Professional and Legal Issues in Nursing Practice (3,0,3) Emerging trends in nursing education and professional nursing practice; ethical and legal parameters of nursing practice. PREREQ: NRP 401, 410, 411, 413L, 415L, 434 and NRP 435/435L. PREREQ: or COREQ: NRP 441L.

NRP 509 Curriculum Development in Nursing (2,0,2) Overview of the process of curriculum development and evaluation; principles of assessment, design, planning, implementation, and evaluation; program development and outcome evaluation in various nursing education settings; differences in patient, community, continuing, and professional education. Open to Registered Nurses only.

NRP 510 Educational Foundations in Nursing (3,0,3) Principles of teaching, learning, and adult education; various nursing education settings -- classroom, clinical, staff development, and community -- and teaching methods associated with those settings; small and large group techniques described. Open to Registered Nurses only.
NRS 511 Nursing Case Management I (2,0,2) Historical development of nursing case management; relationship of nursing case management to health care system; differentiation of models of case management, and cost-effectiveness of nursing case management.

NRS 512 Nursing Case Management II (2,0,2) Role of the nurse case manager and the nurse case management process; legal and ethical issues; quality assurance and evaluation for nursing case management. PREREQ: NRP 511.

NRP 513 Long-Term Care Regulations (2,0,2) Federal and state regulation of long-term and extended care facilities; residents' rights; licensure and reimbursement; government and non-government oversight; liability for and quality in agency operations. Open to Registered Nurses only.

NRP 514 Issues in Gerontology (2,0,2) Issues of significance to nurses and health professionals responsible for care of older adults; aging theories; legal/ethical issues, administration, evaluation learning theories, care and service delivery, environment, and common health problems of older adults. Open to Registered Nurses only.

NRP 533 Integrative Health Therapies (3,0,3) Theory, research, and risks and benefits of integrative health therapies.

**Nursing Baccalaureate**

NRS 104 Fundamental Medical-Surgical Nursing (3,0,3) Nursing process as a basis for nursing care; concepts and theories relevant to nursing care across the life span, scientific principles related to basic nursing care procedures. PREREQ: NUR 103, BIO 126, BIO 208/208L, PSY 100. COREQ: NUR 105, BIO 209/209L, PSY 220 or EDU 300.

NRS 104L Skills Development Laboratory I (0,2,1) Instruction in the campus laboratory for development of basic nursing skills through the use of computer assisted instruction, demonstration, simulations and supervised practice. COREQ: NRS 104, NRS 196.

NRS 105 Pharmacology (2,0,2) Utilization of pharmacological principles for nursing care; pharmacological classifications and physiological actions. PREREQ: BIO 208/208L with at least a “C”, PSY 100. COREQ: NRS 104/104L, NRS 196, BIO 209/209L, PSY 220 or EDU 300.

NRS 196 Fundamental Medical-Surgical Nursing Clinical (0,4,1) Application of basic concepts and theories for direct care of patients in community, acute and long term care facilities; performance of basic nursing skills supervised by faculty. COREQ: NRS 104/104L and NRS 105.

NRS 204 Intermediate Medical-Surgical Nursing I (4,0,4) Concepts and theories needed to support adaptation of clients requiring multiple nursing interventions for commonly occurring alterations in health status. PREREQ: NRS 104/104L, NRS 196, NRS 205, BIO 209/209L, PSY 220 or EDU 300. COREQ: NRS 205, NRS 204L, NRS 296, CHE 115/115L.

NRS 204L Skills Development Laboratory II (0,2,1) Instruction in the campus laboratory for development of nursing skills through the use of computer assisted instruction, demonstration, simulations and supervised practice. COREQ: NRS 204, NRS 205.

NRS 205 Holistic Nursing Assessment (2,0,2) Principles of assessment of existing potential client problems: physical condition, psychological status, developmental level, socio-cultural-economic history with the goal of planning nursing care. PREREQ: NRS 104/104L, NRS 105, NRS 196. COREQ: NRS 205L.

NRS 205L Holistic Nursing Assessment Lab (0,2,1) Application of holistic health assessment techniques in the laboratory setting. COREQ: NRS 205

NRS 206 OB-Newborn Nursing (3,0,3) Historical, cultural, spiritual, ethical, legal, developmental and biophysical data to provide a basis for the nursing care in obstetric health settings. PREREQ: NRS 204/204L, NRS 205/205L. COREQ: NRS 297, NRS 298, BIO 202/202L.

NRS 207 Pediatric Nursing (3,0,3) Historical, cultural, spiritual, ethical, legal developmental and biophysical data to provide a basis for the nursing care in pediatric health settings. PREREQ: NRS 204/204L, NRS 205/205L, COREQ: NRS 298, BIO 202/202L.

NRS 296 Intermediate Medical-Surgical Clinical I (0,8,4) Application of concepts and theories to nursing care for adult clients in acute care settings; complex situations requiring increased competence and critical thinking skills. PREREQ: NRS 104/104L, NRS 196, NRS 105, BIO 209/209L, PSY 220 or EDU 300. COREQ: NRS 205/205L, NRS 204/204L, CHE 115/115L.

NRS 297 OB-Newborn Nursing Clinical (0,4,2) Application of concepts and theories to provide nursing care for obstetric and newborn clients. COREQ: NRS 206.

NRS 298 Pediatric Nursing Clinical (0,8,4) Application of concepts and theories to support care of obstetric and pediatric clients and their families. Students will complete a clinical rotation in each specialty area. COREQ: NRS 207.


NRS 305 Psychiatric Nursing (3,0,3) Concepts and theories to support nursing care of clients with mental health problems and disorders.

NRS 306 Advanced Medical-Surgical Nursing (3,0,3) Theories and concepts for nursing practice in a critical care setting, economic and legal/ethical issues. PREREQ: NRS 304/305, NRS 325, NRS 332, NRS 396. COREQ: NRS 321, NRS 398.


NRS 332 Theories in Nursing (3,0,3) Study of the nature of theory development in nursing with an emphasis on the evolution of the science of nursing. Evaluation of selected nursing theories as they relate to professional nursing practice. PREREQ: NRS 206, NRS 207, NRS 297, NRS 298, BIO 202. COREQ: NRS 304, NRS 305, NRS 396, NRS 397.

NRS 396 Intermediate Medical-Surgical Nursing Clinical II (0,4,2) Application of concepts and theories to support the care of adult clients requiring multiple advanced nursing interventions. COREQ: NRS 304 NRS 305.

NRS 397 Psychiatric Nursing Clinical (0,2,4) Application of concepts and theories needed to support adaptation of adults with mental disorders requiring multiple advanced nursing interventions.

NRS 398 Role Transition Practicum (0,15,5) Clinical practice for role of professional nurse in a supportive environment; opportunities to manage groups of patients, increase clinical competence; knowledge of issues affecting healthcare/healthcare professionals. PREREQ: NRS 304, NRS 325, NRS 332, NRS 396. COREQ: NRS 306/306L.

NRS 404 Community and Public Health Nursing (3,0,3) Principles of health maintenance, health promotion in community settings; epidemiology, health education, group process, cultural diversity impact on health, contemporary community health problems, policy issues. COREQ: NRS 496, NRS 421.

NRS 406 Nursing Leadership (4,0,4) Nursing leadership concepts and functions of leadership in nursing environments; selected theories of leadership and management; collaboration for decision-making and effecting change. COREQ: NRS 498.

NRS 413 Aging in Today's Society (1,0,1) Role of the older adult in society; promotion of health, support of continued learning, right to peaceful death. Theories of aging and ethical/legal concepts. Includes experiences with the older adult in the community, acute and long term care settings. Elective for BSN students. Open to all students. PREREQ: None
OST 310 Intercultural Business Communication (3,0,3) An overview of the development and employee/workgroup interactions; needs assessment, productivity measures, and problem resolution within context of end user support systems; systems development and implementation processes, tactics, and strategies; application of proven methodologies through case or field-based projects. PREREQ: OST 300 or consent of instructor.

OST 324 Operating Systems Technologies (1,2,3) Computer operating systems including organizing your files, personalizing your computer software environment, bringing the World Wide Web to your desktop, searching for information, working with graphics and configuring/managing/maintaining the hard/software systems utilizing a hands-on approach. Application of proven methodologies through case or field-based projects. Outside lab time required. PREREQ: OST 300 or consent of instructor.

OST 325 Electronic Publishing/Presentation Technologies (1,2,3) Introduction, application, and advanced features/functions of Page Maker and Microsoft PowerPoint utilizing a hands-on approach. Application of desktop publishing and electronic presentation features using cases or field based projects for the organization and end-user environment. After completion of this course, student may be prepared to take the current MOUS exam for Microsoft PowerPoint. Outside laboratory time required. PREREQ: Junior standing or consent of instructor.

OST 326 End-User Technology Solutions (3,0,3) This course provides a comprehensive overview of technology solutions for the organizational and end-user environment, including software packages, operating systems, and hardware considerations. Students will analyze, select, and evaluate computer software and hardware to address business needs. The course emphasizes the development of business applications using software packages (word processing, spreadsheets, databases, presentation graphics, project management, and desktop publishing and their accompanying documentation and help-screens). PREREQ: OST 300, OST 317, and OST 325 or consent of instructor.

OST 394 Topics: Applied Technology Systems (3,0,3) Advanced concepts and issues relative to organizational systems. Content based upon needs and interests of students, keeping in mind current technological advancements and systems management concerns. PREREQ: consent of adviser.

OST 399 Independent Studies: Applied Technology Systems (1-3,0,1-3) Individual or group study of specific components of end user systems. For advanced students seeking to study selected problems and issues. PREREQ: consent of OST adviser.

OST 421 Case Studies in Applied Technology Systems (3,0,3) A capstone course that integrates through case studies or other comprehensive capstone experience and application of concepts, theories, and skills associated with end-user support systems as they contribute to the solution of business problems/processes and the development or redesign of the solution of business problems/processes. The course is normally taken in the student’s last term before graduation. PREREQ: OSTE 323 and OSTE 326.

OST 422 Designing and Managing Organizational Training (3,0,3) Application of theories of learning and instructional design to training of employees in high-tech work environments: adult learning theory; needs assessment; instructional design and strategy; technology for traditional and web-based delivery systems; implementation, evaluation, and management of training. PREREQ: junior standing or consent of instructor.

Public Administration

PAD

PAD 300 Introduction to Public Administration (3,0,3) Governmental administration, primarily U.S., development of the discipline and its methodology; organization, personnel, and budgeting problems; administrative control and accountability. PREREQ: junior standing.

PAD 401 Human Resource Management (3,0,3) Principles and problems of recruitment, examination procedures, rating, classification, and assignment to the job; philosophies of pay, promotion, employee motivation and discipline; formulating and administering public personnel policies; concepts and principles in selecting governmental personnel systems; American national, state, and local personnel systems. PREREQ: junior standing.
Development of skills, knowledge, and attitudes in specific Beginning level activities. For students unskilled in the activity. Beginning Badminton (0,2,1) Development of skills, knowledge, and rules related to intermediate level performance of activities. For students already skilled at the Intermediate level in the activity. Intermediate Golf (0,2,1) Intermediate Karate (0,2,1) Intermediate Swimming (0,2,1) Intermediate Tennis (0,2,1) Introduction to Physical Education (3,0,3) Overview of the profession; philosophy, history, and scientific areas; examination of career opportunities. Fall/Spring. Concepts of Lifetime Fitness (1,2,2) Health related problems associated with a modern sedentary society; benefits of regular exercise; individual psycho-motor and physiological developmental patterns. Fall/Spring/Summer. Intermediate Level Activities (0,6,3) Refinement of skills, knowledge, strategies, and rules related to intermediate level performance of activities. For students already skilled at the Intermediate level in the activity. Intermediate Conditioning (0,2,1) Intermediate Aerobics (0,2,1) Intermediate Golf (0,2,1) Intermediate Karate (0,2,1) Intermediate Swimming (0,2,1) Intermediate Tennis (0,2,1) Motor Skill and Fitness Activities for Children (1,2,3) Development of skills, knowledge, and strategies in activities developmentally appropriate for elementary physical education programs; movement concepts, fundamental motor skills, body management, rhythmic activities and dance, game skills, and physical fitness concepts and development activities. Spring Performance and Analysis of Sport Skills I (0,4,2) Development of skill performance and the ability to analyze skill performance critically; knowledge, rules, and progressions for developing motor skills; activities include soccer, volleyball, and archery. For students majoring or minoring in physical education; for others, consent of instructor required. Fall/Spring Performance and Analysis of Sport Skills II (0,4,2) Development of skill performance and the ability to analyze skill performance critically; knowledge, rules, and progressions for developing motor skills; activities include golf, basketball, and softball. For students majoring or minoring in physical education; for others, consent of instructor required. Fall/Spring Performance and Analysis of Sport Skills III (0,4,2) Development of motor skill performance and the ability to analyze skill performance critically; knowledge, rules, and progression for developing motor skills; activities include track and field, badminton, and tennis. For students majoring and minoring in physical education; for others, consent of instructor required. Fall Gymnastics for Teachers (0,4,2) Development of the ability to perform, spot, and critically analyze the skill performance of others and to identify appropriate progressions and learning activities to safely and successfully teach gymnastics (tumbling and apparatus) in a K-12 school recreational setting. For students majoring in physical education; for others, consent of instructor required. Fall Swimming and Aquatic Activities (0,2,1) Knowledge and skills in basic water safety awareness; development of basic swimming strokes and other entry level skills for lifesaving; aquatic games and aerobic water activities. For students majoring or minoring in physical education; for others, consent of instructor required. Fall Officiating Basketball (1,1,1) Rules and techniques for officiating sports contacts. Physical Education for Elementary Teachers (2,0,2) Content and skills for developing, implementing, and evaluating physical education in the P-5 classroom. PREREQ: admission to P-5 program or consent of instructor. Fall/Summer/Summer Principles of Strength Training (3,0,3) Principles, theory and techniques of strength training are presented with opportunities for direct and personal application and practice.
PHE 280 Introduction to Athletic Training (3,0,3) An introduction to athletic training/sports medicine concepts. Course content will include basic skills for prevention, assessment, and care of injuries associated with physical activity.

PHE 299 Special Topics in Physical Education (1-3 sem. hrs.) Directed readings, independent research, or other areas of specific or individual academic interest. Not intended to substitute for any course offered on a regular basis. Written agreement between faculty and student must be submitted to department chair within first two weeks of semester; elements of agreement to include purpose, objective, instructional activities, time frame, and evaluation procedure. PRE-REQ: sophomore standing and/or consent of instructor.

PHE 315 Sports Medicine I (3,0,3) Introduction to sports medicine; prevention, treatment, and rehabilitation of sports injuries; ethical standards, conditioning, taping, preliminary diagnoses; rehabilitative modalities. PREREQ: HEA/PHE 135 or first aid certification. Fall

PHE 316 Sports Medicine II (3,0,3) Continuation of PHE 315; advanced training in preventing, diagnosing, and treating athletic injuries; relationships with coaching, medical, and physical therapy personnel. PREREQ: PHE 315. Spring

PHE 318 Lifeguarding (1,2,2) Knowledge and skills designed to save own life or life of another person in event of aquatic emergency; CPR (enhanced first aid instruction) for the professional rescuer. American Red Cross certification awarded to students meeting requirements. PREREQ: swimming proficiency test given during first class meeting. Spring

PHE 319 Water Safety Instructor (2,2,3) Knowledge, skills, and methodology necessary to teach swimming and water safety skills. American Red Cross Certification for water safety instructor; and first aid/CPR awarded to those students who meet requirements. PREREQ: must pass American Red Cross Level 4 swimming skills test. Fall/Spring

PHE 330 Motor Development (3,1,3) Motor development from birth through maturity; factors influencing the development and performance of motor skills; application of assessment and intervention strategies to improve motor performance for preschoolers through the elderly. Includes 5-7 hours of an on-campus intervention clinical experience with preschool children. PREREQ: Junior standing. Fall/Spring

PHE 360 Statistics and Measurement in Physical Education (3,0,3) Designed to provide knowledge and practical experience in the study of statistical techniques, motor ability tests, motor fitness tests, physical fitness tests, and skill tests applicable to physical education. Fall. PREREQ: MAT 099 or acceptable placement score. Fall/Spring

PHE 370 Biomechanics (3,0,3) Mechanics of human motion with respect to performance in sport activities and movement analysis. Spring. PREREQ: BIO 208. Fall/Spring

PHE 385 Sociological and Psychological Dimensions of Sport and Physical Activity (3,0,3) Introduction of social psychological theory and principles applied to sports; analysis of sport from a sociological perspective through study of values, norms, and behavior of sport in American society. PREREQ: PHE 125. Fall

PHE 390 Practicum in Physical Education (0,2,1) Practical teaching experiences under guidance of qualified instructors. Students observe and assist faculty instructors in one or more basic service courses on campus. Fall/Spring

PHE 391 Practicum in Recreation (0,10,3) Practical field experiences for students in recreation settings, both on campus and in the community. Fall/Spring

PHE 392 Practicum in Fitness Assessment (0,10,3) Practical experiences in assessing physical fitness, both on campus and in the community. Fall/Spring

PHE 430 Curriculum and Methods for Teaching Elementary Physical Education (2,1,3) Development of knowledge, teaching skills, and strategies necessary for effective teaching of physical education in grades K-5. PREREQ: PHE 230, PHE 330, EDU 300, and admission to teacher education program. COREQ: PHE 490. Fall

PHE 440 Physiology of Exercise (3,0,3) Response of the body to muscular activity; structure and function of skeletal muscles; energy sources and oxygen requirements for muscular activity. Fall. PREREQ: BIO 208. Fall/Spring

PHE 450 Organization and Administration of Physical Education, Recreation, and Athletics (3,0,3) Theory, policies, and procedures for administering physical education, recreation, and athletic programs in the school and community; program development, budgeting, equipment, facilities, personnel. Fall.

PHE 465 Exercise Prescription (3,0,3) Basic principles for prescribing activities to improve physical fitness and/or athletic performance. PREREQ: PHE 360 and PHE 440. Fall

PHE 480 Curriculum and Methods for Teaching Middle School and Secondary Physical Education (2,1,3) Development of knowledge, teaching skills, and strategies necessary for effective teaching of physical education in the middle and secondary school. PREREQ: PHE 200, PHE 240, PHE 241, PHE 242, and admission to teacher education program. COREQ: PHE 491. Spring

PHE 490 Practicum in Teaching Elementary Physical Education (0,1,1) Supervised practice teaching experience in an elementary school setting. Integrated with methods course. COREQ: PHE 430. Fall

PHE 491 Practicum in Teaching Middle School and Secondary Physical Education (0,1,1) Supervised practice teaching experience in a middle school and/or high school setting. Integrated with methods course. COREQ: PHE 480. Spring

PHE 496 Field Experience in Recreation/Fitness (0,15,5) Full semester field experience in community setting; experience in planning, observation, and implementation of recreation or fitness programs under supervision of qualified professional. PREREQ: consent of director of physical education programs. COREQ: PHE 498. Fall/Spring

PHE 498 Senior Seminar in Recreation/Fitness (1,0,1) Integration of theoretical foundations with field experience in recreation/fitness; forum for inquiry into programming, teaching, professional opportunities, ethical a healthy lifestyle. COREQ: PHE 496. Fall/Spring

PHE 499 Special Topic in Physical Education (1-3 sem. hrs.) Directed readings, independent research, or other areas of specific or individual academic interest. Not intended to substitute for any course offered on a regular basis. Written agreement between faculty and student must be submitted to department chair within first two weeks of semester; elements of agreement to include purpose, objective, instructional activities, time frame, and evaluation procedure. PRE-REQ: junior or senior standing and/or consent of instructor.

PHE 500 Adapted Physical Education (3,0,3) Adaptation of physical education programs for temporarily or permanently handicapped persons. Fall/Spring

PHE 545 Sport in Modern America (3,0,3) Trends and problems in organized athletic competition in the context of contemporary society. Summer

PHE 595 Scientific Foundations of Coaching (3,0,3) Scientifically based principles applied to effective athletic coaching; exercise physiology, biomechanics, kinesiology, and sport psychology. Summer

PHE 599 Selected Problems in Physical Education (1-3 sem. hrs.) Individual or group study of a topic of current interest in physical education. Topic selected by student with approval of instructor.

Philosophy

PHI 150 Introduction to Philosophy (3,0,3) Application of philosophical thinking to perennial human concerns; human nature and the human condition, the good life, the good society. A general education course (humanities).

PHI 155 Introduction to Ethics (3,0,3) Moral dimension of human experience; development of a rational approach to ethical inquiry; major value questions and ethical issues. A general education course (humanities).

PHI 160 World Religions (3,0,3) A philosophical and comparative analysis of the major world religions: Hinduism, Buddhism, Confucianism, Taoism, Judaism,
Christianity, and Islam. A general education course (humanities or non-western perspective).

PHI 165 Introduction to Logic (3,0,3) Methods and principles used to distinguish valid from invalid forms of argumentation in deductive and inductive reasoning; syllogisms, dilemmas, truth tables, and the scientific method. A general education course (humanities).

PHI 170 Philosophy and Sexuality (3,0,3) Differing analyses of sexuality, love, and friendship, including historical perspectives such as Greek, Christian, Marxist, Freudian, Feminist, Existentialist, and Contemporary Analytic; contemporary discussions concerning sexism, male chauvinism, marriage, polygamy, homosexuality, lesbianism, androgyny, pornography, and prostitution. A general education course (humanities).

PHI 180 History of Classical and Medieval Philosophy (3,0,3) Western philosophical tradition from the Greeks to the 15th century; birth of scientific explanations; the role of reason; impact of Christianity; influence of seminal thinkers such as Socrates, Plato, Aristotle, the Atomists, Augustine, and Aquinas on political, ethical, religious, and other ideas. A general education course (history or humanities).

PHI 185 History of Modern and Contemporary Philosophy (3,0,3) Western philosophical tradition from the 15th to the 20th century; rise of rationalism, dualism, empiricism, idealism, skepticism, and utilitarianism, and the modern reactions to them, such as positivism, dialectical materialism, existentialism, and feminism; figures such as Bacon, Descartes, Hobbes, Leibniz, Spinoza, Hume, Mill, Kant, Hegel, and others. A general education course (history or humanities).

PHI 201 Ideas in Philosophy (3,0,3) Issues and/or works in philosophy revolving around a selected theme or concern. May be repeated as topics vary. A general education course (humanities).

PHI 210 Ethics of Information Technology (3,0,3) Ethical issues faced by computing professionals including those related to computing in the workplace, security, crime, privacy, property rights, risk, liability, and the internet. A general education course (humanities) PREREQ: None.

PHI 220 Health Care Ethics (3,0,3) Ethical decision making and problems of contemporary health care; abortion, euthanasia, population, and behavior control; informed consent and counseling; professional codes and personal freedom; mental health and personal autonomy; justice and equality in health care; ethical conflicts in health service work; death and dying. A general education course (humanities).

PHI 230 Environment, Technology, and Human Values (3,0,3) Technology and human nature; ethical implications of present and future technological developments; application of ethical frameworks to the problems of human beings in the future; ecological and environmental values; western and non-western approaches.

PHI 240 Philosophy and the Arts (3,0,3) Differing theories of the nature and importance of art in the history of aesthetics in regard to the artist, to the audience, to society; form and content within various media; the art world; artistic creativity and truth; imagination, emotion, unconscious, intellect and the artistic process; craft and art; feminist and Marxist critiques of art. A general education course (humanities)

PHI 250 Eastern Philosophy (3,0,3) Philosophical foundations of Buddhism, Taoism, Confucianism, and Hinduism, including perspectives on self, reality, community, language, truth, enlightenment, embodiment, reason, emotion, and art; contrast with western perspectives; meditation and applied meditative practices. A general education course (humanities or non-western perspective). 

PHI 301 Philosophy in Literature (3,0,3) Philosophical issues in literature considered historically and/or thematically; reality, nature, self, creativity, language, knowledge, community, good and evil, freedom, and God.

PHI 302 Ethics and Science (3,0,3) Ethical, legal, and public policy issues stemming from scientific research, including medical, psychological, and sociological; topics may include animal and human experimentation, informed consent, privacy, confidentiality, government regulations, freedom of inquiry and censorship, the moral responsibility of scientists, the implications of scientific research for ethics. PREREQ: 3 semester hours in philosophy.

PHI 303 Philosophy and Psychotherapy (3,0,3) Philosophical frameworks of underlying assumptions about reality, self, time, meaning, rationality, imagination, emotion, society, unconsciousness, embodiment, and therapeutic process in various psychotherapeutic modalities, such as Freudian, Jungian, Medical Model, Existential, Logotherapeutic, Gestalt, and Behaviorist; ethical issues of practice; social issues. PREREQ: 3 semester hours of philosophy.

PHI 305 Existentialism (3,0,3) Meaning, freedom, responsibility, communication, creativity, and value in the works of thinkers such as Kierkegaard, Nietzsche, Heidegger, Sartre, Camus, De Beauvoir, and others; critique of traditional notions of mind versus body, reason, truth, self-identity, language, and time.

PHI 306 Philosophy and Science (3,0,3) Philosophical issues in science; the nature of scientific explanation; science and pseudoscience; growth of scientific knowledge; Kuhn, Popper, Feyerabend, and others. PREREQ: 3 semester hours in philosophy or science.

PHI 307 Business Ethics (3,0,3) Codes by which businesses and individuals in business act; problems that can develop concerning ethical issues; corporate personhood; corporate, employer, employee, and consumer rights and responsibilities. PREREQ: 3 semester hours in philosophy.

PHI 311 Philosophy of Women (3,0,3) Ideas of and about women in the history of philosophy; perennial issues that have emerged from classical times to the present. PREREQ: 3 semester hours in philosophy or women's studies.

PHI 315 Knowledge and Reality (3,0,3) Differing views on the nature of knowledge and reality, e.g., analytic, idealist, realist, materialist, existentialist, mystical, intuitionist, and emotivist; relevance of these theories to one's personal philosophy of life and actions; nature of language, perception, intellect, time, matter, mind, God, freedom, truth, reason, emotion. PREREQ: 3 semester hours in philosophy.

PHI 320 Social and Political Philosophy (3,0,3) Nature and purposes of the state, grounds of political obligation, freedom and its limitations, human rights, social justice, and selected contemporary issues.

PHI 323 Peace and War (3,0,3) Philosophical study of main issues related to the ideas and realities of war and peace. Topics will include beliefs and theories about peace and war, the causes of violence and war, war and morality, alternatives to violence and war, peace ideas and proposals, applications to current world conditions. PREREQ: 3 semester hours in philosophy.

PHI 325 Philosophy of Nonviolence (3,0,3) Reflective and evaluative study of the theory and practice of nonviolence. Topics will include the origins of nonviolence in both Western and Eastern thought; modern philosophers of nonviolence—Tolstoy, Gandhi, and King; civil disobedience; types of pacifism; women and nonviolence; recent examples of nonviolent action. PREREQ: 3 semester hours in philosophy.

PHI 330 Philosophy and Law (3,0,3) Major philosophical issues in law; theories of the nature and purposes of law, legal enforcement of community standards, strict liability, human rights, civil disobedience, theories of punishment, and legal ethics. PREREQ: sophomore standing. A general education course (humanities).

PHI 335 Great Traditions in Ethics (3,0,3) In-depth study of the major sources of western moral philosophy; representative selections from philosophers of classical times to the present (e.g., Plato, Aristotle, Augustine, Aquinas, Kant, Bentham, Mill, Marx, Dewey, and Sartre). PREREQ: 3 semester hours in philosophy.

PHI 340 Contemporary Anglo-American Philosophy (3,0,3) Central issues and themes in 20th century Anglo-American philosophy, Russell, Wittgenstein, Quine, and others; language, truth and meaning, free will and determinism, and relation of mind and body. PREREQ: 3 semester hours in philosophy.

PHI 345 Philosophy of Mind (3,0,3) This course is designed to examine issues and themes in contemporary philosophy of mind; the relationships among the mind, brain and world; problems concerning intentionality, subjectivity, con-
PHY 350 Philosophy of Religion (3,0,3) Issues in religious philosophy, including the relation between faith and reason, the nature of religious experience, arguments for the existence of God, the problem of evil, and immortality. PREREQ: sophomore standing or consent of instructor. A general education course (humanities).

PHY 355 Socrates & Plato (3,0,3) Study of two major formative persons in the development of Western thought and culture. Socrates' life, trial, death, thought, and significance. Plato on the good, justice, education, knowledge, and reality; the Platonic tradition. PREREQ: 3 semester hours in philosophy.

PHY 360 Topics in Environmental Philosophy (3,0,3) In-depth examination of a selected topic in environmental philosophy, such as environmental feminism, animal rights, technology and human nature, environmental justice, or religion and ecology. Topic will be announced in the Schedule of Classes. May be repeated as topics vary. PREREQ: 3 semester hours in philosophy or consent of instructor.

PHY 370 Ethics and the Nursing Profession (3,0,3) Ethical, legal, and social ramifications regarding the nurse's role and nursing's professional codes; moral and legal dilemmas of the nurse in relation to the patient, to the institution, to other health care providers, and to personal moral and religious concerns. PREREQ: PHI 220

PHY 394 Topics: Philosophy (3,0,3) In-depth examination of a major figure, issue, or school in philosophy. Topic will be announced in Schedule of Classes. May be repeated as topics vary. PREREQ: 3 semester hours in philosophy.

PHY 396 Applied Philosophy Internship (2,5,3) Supervised readings and research carried out in conjunction with practicum, internship, or job in student's primary area of interest; focus upon philosophical and ethical issues of the work experience. PREREQ: 6 semester hours in philosophy and consent of instructor.

PHY 494 Seminar: Philosophy (3,0,3) Examination of a selected problem or tradition in philosophy. Offered according to demand and interest of students at discretion of philosophy faculty. May be repeated when topics vary. PREREQ: 6 semester hours in philosophy.

PHY 499 Independent Study (1-3 sem. hrs.) Individually supervised readings and study of some philosophical work, problem, or tradition. May be repeated as topics vary, but no more than twice. PREREQ: 6 semester hours in philosophy and consent of instructor.

PHY 510 Ethics of Information Technology (3,0,3) Ethical issues faced by computing professionals including those related to computing in the workplace, security, crime, privacy, property rights, risk, liability, and the internet.

PHY 594 Topics: Philosophy (3,0,3) In-depth examination of a selected topic in philosophy. May be repeated as topics vary. PREREQ: 6 semester hours in philosophy or consent of instructor.

PHY 599 Independent Study (3,0,3) Individually supervised readings and study of a selected study in philosophy. May be repeated as topics vary. PREREQ: 6 semester hours of philosophy or consent of instructor.

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**Physics**

**PHY**

**PHY 100 Science, Engineering, and Design** (1,0,1) Course designed for students who wish to pursue a course of study in a field of science or pre-engineering at NKU. Topics will include career information, career and college success skills, and an introduction to design.

**PHY 101 Einstein 101** (3,0,3) Introduction to concepts in modern Physics by studying the work and life of Albert Einstein. Theories to be covered include special and general relativity, photoelectric effect, quantum mechanics, and Brownian motion. Assumes knowledge of elementary algebra and graphing techniques. A general education course (natural science). PREREQ: MAH 099 or equivalent.

**PHY 110 Introduction to Physics with Laboratory** (3,2,4) Conceptual physics for non-science majors. Using guided inquiry activities to teach basic principles and their applications. Topics chosen from among: nature of physics as a science, mechanics, wave motion, light, heat, electricity, and the atom. Assumes knowledge of elementary algebra. A general education course (natural sciences). PREREQ: MAH 099 or equivalent.

**PHY 115 Physics of Music and Sound** (3,1,4) The course examines the physical principles involved in the description, generation, detection, and reproduction of sound. Topics include oscillations and vibrations, waves and waveforms, sound, traveling waves in air, standing waves, resonance, hearing, the ear, loudness, decibels, acoustical measurements, sound-generating electronics, digital sound. PREREQ: MAH 099. A general education course (natural sciences).

**PHY 150 Current Topics in Physics** (3,0,3) Directed projects, readings, and discussion for students interested in physics as a major or a minor. Does not meet general education requirement in natural sciences.

**PHY 211 General Physics with Laboratory I** (4,2,5) Non-calculus introduction to classical physics using guided inquiry activities. Topics include kinematics, forces and Newton’s Laws of Motion, circular motion, work and energy, momentum, rotational motion, static equilibrium, and fluids. Assumes knowledge of algebra and basic trigonometry. A general education course (natural sciences). PREREQ: MAT 119 or MAT 118 or equivalent placement.

**PHY 212 General Physics with Laboratory II** (4,2,5) Non-calculus introduction to classical physics using guided inquiry activities. Continuation of PHY 211. Topics include oscillations, waves and sound, electric forces and fields, DC circuits, magnetic forces and fields, AC circuits, geometrical optics, and physical optics. A general education course (natural sciences). PREREQ: PHY 211.

**PHY 220 University Physics with Laboratory I** (3,3,4) Calculus based introduction to classical physics using guided inquiry activities. Topics include techniques for data analysis, kinematics, forces and Newton’s Laws of motion, circular motion, work and energy, momentum, rotational motion, static equilibrium. A general education course (natural sciences). PREREQ or COREQ: MAT 120 or MAT 121.

**PHY 222 University Physics with Laboratory II** (3,3,4) Calculus based introduction to classical electromagnetic theory using guided inquiry activities. Topics include electric forces and fields, DC circuits, magnetic forces and fields, AC circuits. A general education course (natural sciences). PREREQ or COREQ: MAT 220 or MAT 221.

**PHY 224 University Physics with Lab III** (3,3,4) Calculus based introduction to classical physics using guided inquiry activities. Topics include oscillations, waves, sound, geometrical optics, physical optics, fluids and thermodynamics. PREREQ: PHY 220.

**PHY 294 Topics: Physics** (1-3-sem. hrs.) Special topics in physics. Repeatable for a maximum of 12 semester hours. PREREQ: consent of department chair.

**PHY 300 Intermediate Physics Laboratory** (0,4,2) A selection of experiments in classical and modern physics. Topics include but are not limited to properties of light, quantization of charge, and atomic structure. COREQ: PHY 361.

**PHY 301 Advanced Physics Laboratory** (0,4,2) A selection of advanced experiments in classical and modern physics. Topics are selected from thermodynamical properties of matter, nuclear structure, particle physics and advanced optics. PREREQ: PHY 300.

**PHY 304 Electronics and Circuit Analysis with Laboratory** (3,2,4) Electronic components and devices; DC and AC circuit analysis; analog electronics. PREREQ: PHY 222.

**PHY 305 Statics** (3,0,3) Force on bodies at rest; vector algebra; force systems; equivalent force systems; distributed forces; internal forces; principles of equilibrium; application to trusses, frames, and beams; friction. PREREQ: PHY 211 or PHY 220 and MAT 220.

**PHY 310 Dynamics** (3,0,3) Particle dynamics in one, two, and three dimensions; applications of mathematics to mechanical systems; theory of small oscillations; rigid body dynamics. PREREQ: PHY 220 and MAT 325.
PHY 315 Introduction to Astrophysics (3,0,3) Quantitative application of physical principles to subjects of astronomical interests, such as the interaction of radiation with matter, analysis of stellar atmospheres, origin and evolution of the elements, and cosmology. Same as AST 315. PREREQ: PHY 222 or PHY 213 and MAT 120 or MAT 122.

PHY 320 Physical Optics (3,0,3) Nature of light; interference; diffraction; polarization. PREREQ: PHY 222 and MAT 220.

PHY 330 Mathematical Physics (3,0,3) Fourier series; orthogonal expansions; eigenvalue problems; boundary value problems in ordinary and partial differential equations. Same as MAT 330. PREREQ: MAT 225 and MAT 325.

PHY 340 Digital Microcomputer Electronics for Scientific Application with Laboratory I (3,2,4) Introduction to AC circuits, solid state devices, digital integrated circuits, Boolean logic, logic gates, combinational and sequential logic timing analysis; memories; A/D and D/A conversion with applications to interfacing scientific equipment. PREREQ: PHY 213 or PHY 222 and one of CSC 160, or CSC 260.

PHY 341 Digital and Microcomputer Electronics for Scientific Applications with Laboratory II (3,2,4) Microcomputer architecture, instruction sets, and machine language programming; interfacing techniques including interrupts, I/O ports, and PIA's; dedicated microcomputer applications; data acquisition and control of physical systems. PREREQ: PHY 304 or 340.

PHY 360 Thermodynamics (3,0,3) The laws of thermodynamics applied to closed systems, open systems, power cycles and refrigeration cycles; extensive use of tables and graphs of thermodynamic properties. PREREQ: PHY 224 and MAT 320.

PHY 361 Modern Physics I (3,0,3) Introduction to concepts of modern physics; relativity, quantization of charge, black body radiation, photoelectric effect, x-ray and Compton scattering, atomic models of Rutherford and Bohr, wave properties of matter, the Schrodinger equation and atomic physics. PREREQ: PHY 220 and PHY 224 or PHY 213 and MAT 120. COREQ: PHY 300.

PHY 392 Directed Research: Physics (1-3 sem. hrs.) Supervised research in an area of physics currently under investigation by one or more members of the physics faculty. Repeatable for a maximum of 9 semester hours. PREREQ: junior standing.

PHY 394 Topics: Physics (1-3 sem. hrs.) In-depth study of specialized topics in physics. May be repeated for credit up to 9 sem. hours when topic varies. Offered on demand. PREREQ: consent of instructor.

PHY 397 Special Projects: Physics (1-3 sem. hrs.) Completion of an independent project involving either the development of an advanced laboratory experiment or the construction of a working prototype (or detailed conceptual design) of an operational device. Repeatable for a maximum of 6 semester hours.

PHY 399 Readings: Physics (1-3 sem. hrs.) Current literature. Repeatable for a maximum of 6 semester hours.

PHY 410 Electromagnetic Theory (4,0,4) Development of Maxwell's equations; their application to electrostatics, magnetostatics, and electromagnetic radiation. PREREQ: PHY 222, MAT 320, and MAT 325.

PHY 420 Modern Physics II (3,0,3) Applications and advanced topics in modern physics; statistical physics, molecular structure and spectra, solid state physics, nuclear physics, particle physics and cosmology. PREREQ: PHY 361.

PHY 460 Quantum Mechanics (3,0,3) Principles of quantum mechanics; operator methods and their application to the hydrogen atom, spin, and angular momentum. Other topics selected from quantum statistics, variational techniques and perturbation theory, WKB approximation, and many electron atoms. Same as CHE 560. PREREQ: PHY 361 or CHE 361 and MAT 325.

PHY 492 Undergraduate Research: Physics (1-3 sem. hrs.) Supervised research in an area of physics currently under investigation by one or more members of the physics faculty. Repeatable for a maximum of 9 semester hours. PREREQ: 8 semester hours of 300-level physics courses or above.

PHY 494 Seminar: Physics (1,0,1) Techniques to search and report on research articles in physics. A written report and an oral presentation are required. PREREQ: 20 semester hours of physics courses.

Popular Culture

POP 394 Topics: Popular Culture (3,0,3) Focused study of a specific and significant topic concerning popular culture. Topics vary from semester to semester. May be repeated once for credit. PREREQ: Varies according to topic.

POP 499 Independent Study (1-3 sem. hrs.) Individually supervised work involving reading, research, and/or production in a specified area of interest. Topic selected before registration in conference with instructor.

Public Relations

PRE 296 Public Relations Practicum (0,1,1) Academically supervised and evaluated professional experience in public relations on or off campus. Repeatable for up to 6 semester hours of practicum applicable toward the major in public relations. PREREQ: PRE 375.

PRE 375 Principles of Public Relations (3,0,3) Philosophy and functions of public relations practices; campaign planning and public affairs activities; writing messages for and selection of news media. PREREQ: JOU 100; JOU 130, or RTV 265.

PRE 376 Public Relations Writing (3,0,3) Instruction and practice in various forms of writing for Public Relations, including press releases, annual reports, newsletters, and other professional public relations writing for the media and the public. PREREQ: or COREQ: PRE 375.

PRE 377 Public Relations Case Studies and Campaigns (3,0,3) Evaluation of public relations programs conducted by companies, nonprofit institutions, and government agencies; writing for specialized and mass media in public relations. PREREQ: PRE 375.

PRE 396 Internship: Public Relations (3,0,3) Selected placement, for P.R. majors, in a public relations agency, department, or other employer of P.R. professionals. Assigned work in a business, non-profit, or government organization may include writing, production, or promotion. May not be repeated for credit. PREREQ: PRE 375; PRE 376 or ENG 340 or JOU 346.

PRE 410 Electronic Public Relations (3,0,3) Provide knowledge and practice in preparing various forms of electronic media used for corporate, non-broadcast purposes. Students will develop, create and produce effective electronic programming for distribution within the corporate culture in this course. PREREQ: PRE 375.

PRE 499 Independent Study: Public Relations (3,0,3) Individually supervised work involving reading, research, writing, and/or production in a specified area of interest of public relations. Topic and plan of study selected before registration in conference with professor. May be repeated for a maximum of 6 semester hours. PREREQ: junior standing; approved independent study proposal.

Prior Learning

PRL

PRL 101 (2,0,2) Conversion of prior (job or personal) college level learning experience into college credit; assembling a portfolio document. PREREQ: written permission from Educational Outreach Program Director.

Political Science

PSC

PSC 100 American Politics (3,0,3) National government in the U.S. decision making process, government structure, politics. A general education course (social sciences).

PSC 101 State and Local Politics (3,0,3) Policy making processes in U.S. state governments, Kentucky state and local governments. A general education course (social sciences).
PSC 102 Comparative Politics (3,0,3) Analysis of political systems using the comparative approach to political processes and behavior. A general education course (social sciences or non-western perspective).

PSC 103 International Politics (3,0,3) Fundamental factors governing international politics. A general education course (social sciences or non-western perspective).

PSC 110 History of Western Political Thought (3,0,3) Trends and ideas that have helped shape Western political heritage. A general education course (humanities or social sciences).

PSC 111 History of American Political Thought (3,0,3) Trends and ideas that have helped shape the American political heritage. A general education course (humanities or social sciences).

PSC 215 Race, Gender, and Politics (3,0,3) Race, ethnicity, and gender patterns in the U.S.; race and gender issues related to law, justice, and public policy; historical antecedents of contemporary policies and practices; women and ethnic groups and their relation to cultural, economic, social, and political trends. A general education course (social sciences or race/gender).

PSC 291W Writing in Political Science (3,0,3) Writing techniques used in the discipline including but not limited to research papers, reviews, briefs, position papers, policy analyses, and technical reports, professional writing processes including finding, using and citing sources; information techniques used in political science. A general studies course (Written Communications II).

PSC 302 The American Presidency (3,0,3) A comprehensive examination of the Presidency of the United States of America. This class will look at leadership styles, different time periods in presidential history, the historical impact of past presidents on current office holders and the interaction between the presidency, congress, and the supreme court. PREREQ: 3 semester hours of introductory political science courses.

PSC 303 The American Legislature (3,0,3) A comprehensive examination of the Congress of the United States of America. The focus will be how laws are made, how candidates are elected, the role of the political parties, the interactions between the Congress and the Presidency/Supreme Court, the constitutional foundations of the Congress, and the development of congressional power since the founding. PREREQ: 3 semester hours of introductory political science courses.

PSC 316 Data Analysis (2,3,3) Applied current research techniques in, e.g., legal research, survey research, use of microcomputers, management of information, and applied governmental research. PREREQ: PSC 315.

PSC 317 American Politics in Film (3,0,3) Role of films in shaping public agendas, enhancing awareness of public issues; effect of films on public understanding of political processes and problems; examination of accuracy and bias of political messages in films. PREREQ: 3 semester hours of introductory political science courses.

PSC 320 American Politics in Film (3,0,3) Comparative analysis of selected republics, especially Argentina, Brazil, Chile, Peru, and Venezuela. PREREQ: 3 semester hours of introductory political science courses.

PSC 321 Race, Gender, and Politics (3,0,3) Major constitutional issues studied through various methodologies and quantitative techniques; nature of the role of the political scientist. PREREQ: 3 semester hours of introductory political science courses.

PSC 323 Civil Liberties (3,0,3) Fundamental factors governing the Canadian policy and the greater international community. The major intent is to help the student better grasp and comprehend the structure and historical antecedents of contemporary policies and practices; women and ethnic groups and their impact on the Canadian policy and the greater international community. PREREQ: 3 semester hours of introductory political science courses.

PSC 324 Political Behavior (3,0,3) Comparative analysis of major western revolutions and Third World revolutions; causes and consequences of revolutionary activity. PREREQ: 3 semester hours of introductory political science courses.

PSC 325 Comparative Revolutionary Politics (3,0,3) A comprehensive examination of the theory and practice of United States foreign policy in the developing world and critical analysis of the implications of such policy on U.S./Developing World relations. Analysis aimed to assist students to see and understand how the perceptions formed by both sides are based on how they view the impact of the policy on their perceived national interests. PREREQ: 3 semester hours of introductory political science courses.

PSC 326 Government and Politics in Africa (3,0,3) A comprehensive introduction to the theory, practice and reality of Government and Politics in Africa. The major intent is to help the student better grasp and comprehend the structure, function and nature of government and politics in Africa from colonialism to the present, as well as the policies resulting and their impact on the African polity and the greater international community. PREREQ: 3 semester hours of introductory political science courses.

PSC 327 Pre-Enlightenment Political Theory (3,0,3) Nature of political life; basic questions examined through close reading of original works of early Greek and Christian thinkers. PREREQ: 3 semester hours of introductory political science or philosophy courses.

PSC 328 Canadian Politics and Policies (3,0,3) Reactions against pre-Enlightenment though such as natural rights, social contract and liberal democracy. PREREQ: 3 semester hours of introductory political science or philosophy courses.

PSC 329 Law of Mass Communications (3,0,3) Basic legal concepts and issues affecting mass communication, constitutional law, the First Amendment, libel, slander, invasion of privacy, copyright, the FCC and its regulation of broadcasting, legal access to the media, and the use of classified information by the media. PREREQ: 3 semester hours of introductory political science courses.

PSC 330 Politics of Europe (3,0,3) Organization and functioning of modern European political systems, especially Great Britain, France, Germany, and Italy. PREREQ: 3 semester hours of introductory political science courses.

PSC 333 U.S. Foreign Policy and the Developing World (3,0,3) A comprehensive examination of the theory and practice of United States foreign policy in the developing world and critical analysis of the implications of such policy on U.S./Developing World relations. Analysis aimed to assist students to see and understand how the perceptions formed by both sides are based on how they view the impact of the policy on their perceived national interests. PREREQ: 3 semester hours of introductory political science courses.

PSC 335 Latin American Politics (3,0,3) Comparative analysis of selected republics, especially Argentina, Brazil, Chile, Peru, and Venezuela. PREREQ: 3 semester hours of introductory political science courses.

PSC 336 Government and Politics in Africa (3,0,3) A comprehensive introduction to the theory, practice and reality of Government and Politics in Africa. The major intent is to help the student better grasp and comprehend the structure, function and nature of government and politics in Africa from colonialism to the present, as well as the policies resulting and their impact on the African polity and the greater international community. PREREQ: 3 semester hours of introductory political science courses.

PSC 337 Enlightenment and Post Enlightenment Political Theory (3,0,3) Reactions against pre-Enlightenment though such as natural rights, social contract and liberal democracy. PREREQ: 3 semester hours of introductory political science or philosophy courses.

PSC 338 U.S. Foreign Policy and the Developing World (3,0,3) A comprehensive examination of the theory and practice of United States foreign policy in the developing world and critical analysis of the implications of such policy on U.S./Developing World relations. Analysis aimed to assist students to see and understand how the perceptions formed by both sides are based on how they view the impact of the policy on their perceived national interests. PREREQ: 3 semester hours of introductory political science courses.

PSC 339 Law of Mass Communications (3,0,3) Basic legal concepts and issues affecting mass communication, constitutional law, the First Amendment, libel, slander, invasion of privacy, copyright, the FCC and its regulation of broadcasting, legal access to the media, and the use of classified information by the media. PREREQ: 3 semester hours of introductory political science courses.

PSC 340 Introduction to the Law (3,0,3) Various approaches to law, including philosophical, sociological, political, and historical; elements of legal reasoning; institutions, functions, and effects of law in American society. PREREQ: 3 semester hours of introductory political science courses.

PSC 341 Topics: American Politics (3,0,3) Topics vary from semester to semester. Schedule of Classes for topic and prerequisites. May be repeated. PREREQ: 3 semester hours of introductory political science courses.
PSC 394 Topics: Theory and Practice (3,0,3) Topics vary from semester to semester. See Schedule of Classes for topic and prerequisites. May be repeated. PREREQ: 3 semester hours of introductory political science courses.

PSC 394 Topics: Comparative Politics (3,0,3) Topics vary from semester to semester. See Schedule of Classes for topic and prerequisites. May be repeated. PREREQ: 3 semester hours of introductory political science courses.

PSC 394 Topics: International Politics (3,0,3) Topics vary from semester to semester. See Schedule of Classes for topic and prerequisites. May be repeated. PREREQ: 3 semester hours of introductory political science courses.

PSC 403 Public Policy (3,0,3) Forces molding public choice; general processes of policy formation and adoption; analysis of implementation of policies dealing with problems of compliance and policy impact, distribution, and evaluation; major domestic public policy issues including criminal justice, social welfare, environment, health care, and taxation. PREREQ: 3 semester hours of introductory political science courses.

PSC 410 Political Economy (3,0,3) Interaction between politics and economics at the domestic and international levels; process leading to national and international distribution of wealth and economic development. PREREQ: 6 semester hours of introductory political science or economics courses.

PSC 415 United States Foreign Policy (3,0,3) The historical setting, foreign policy process models, institutions and actors that influence United States foreign policy, emerging and enduring issues addressed by states. PREREQ: 3 semester hours of introductory political science courses.

PSC 420 International Terrorism (3,0,3) This course is designed to acquaint students with a comprehensive introduction to the theory and practice of international terrorism. The class will focus on understanding the concept of terrorism and what role it plays in international as well as domestic politics. An attempt will also be made to explore the driving forces that motivate acts of terrorism that include religious, political, and economic components, inter alia. PREREQ: 3 semester hours of introductory political science courses.

PSC 430 Politics and Mass Media (3,0,3) Impact of media on political process in the United States; structure and ownership of mass media; mass media and political behavior; role of the media in campaigns, elections and policy making. PREREQ: 3 semester hours of introductory political science courses.

PSC 470 The Post-Cold War World (3,0,3) A global approach to international politics through studying the interdependence of the political, economic, environmental, and cultural relationships in today's world; characteristics of the evolving international system. PREREQ: 3 semester hours of introductory political science courses.

PSC 480 International Law (3,0,3) Development of international law; enforcement of international law; impact of international law on conduct of international relations among nation states. PREREQ: 6 semester hours of introductory political science courses.

PSC 481 International Organizations (3, 0, 3) Development of international organizations; recent international organizations; role of United Nations in peacekeeping and international socioeconomic and cultural development. PREREQ: 3 semester hours of introductory political science courses.

PSC 485 Comparative Foreign Policy (3,0,3) Comparative analysis of foreign policies of selected states; decision-making and factors affecting foreign policy. PREREQ: 3 semester hours of introductory political science courses, or consent of instructor.

PSC 486 War in the Modern World (3,0,3) This course is an investigation into the causes and correlates of conflict in our time, and how fighting these conflicts has changed over time. The course begins just prior to the year 1648, with the advent of the modern nation-state system, and unfolds to the present days of the “New World disorder,” with the occurrence of acts of political terrorism upon American soil. PREREQ: 3 semester hours of introductory political science courses.

PSC 496 Internship in Political Science (3 to 15 sem. hrs) Students may enroll for real-world experiential credit with public or private hosts. Students must have the consent of Internship Coordinator.

PSC 499 Readings and Practica for Seniors (1-3 sem hrs) Specialized reading or primary research interests completed through independent study at the direction of a specific instructor. May be repeated as projects vary. PREREQ: consent of program director.

Psychology

PSY 100 Introduction to Psychology (3,0,3) Systematic and scientific study of behavior from biological, behavioral, and cognitive perspectives; methods, history, biopsychology, perception, learning, development, cognition, personality, mental disorders, therapy, and social psychology. A general education course (behavioral sciences).

PSY 100H Honors Introduction to Psychology (3,0,3) Scientific study of behavior and mental processes in a seminar setting; perspectives and topics covered in PSY 100; critical thinking and research methodology; independent work and active participation required. A general education course (behavioral sciences). PREREQ: minimum ACT composite of 24 or consent of instructor.

PSY 200 Psychology of Personal Adjustment (3,0,3) Personal growth and development including personal health; stress management; values clarification; moral dilemmas; interpersonal relations; social problems; career development. A general education course (behavioral sciences). PREREQ: PSY 100.

PSY 201 Psychology of Race and Gender (3,0,3) Psychological effects of racism and sexism; gender, ethnicity, culture, politics, and economic and social issues in the United States. A general education course (behavioral sciences or race/gender).


PSY 206 Human Sexuality Forum (3,0,3) Focuses on personal attitudes and values through structured exercises and discussion. Explicit content. Offered only during intersession; graded pass/fail. Credit is not given for both PSY 205 and PSY 206. Same as PSY 205. A general education course (behavioral sciences). PREREQ: PSY 100.

PSY 210 Research Methods in Psychology (3,0,3) Experimental and other research methods in psychological research. A laboratory experience is included. PREREQ: PSY 100 and STA 205. COREQ: PSY 210L and PSY 210R.

PSY 210L Research Tools in Psychology (1,2,2) Skills needed to support PSY 210: use of computers and other tools in all phases of psychological research: information gathering, analysis, and communication; techniques of library searching, elements of writing in APA style, collecting and analyzing data. COREQ: PSY 210 and PSY 210L.

PSY 210R Career Planning for Psychology Majors (1,0,1) Assessment of individual values, interests, and abilities; investigation of psychology-related vocations; planning and decision-making skills regarding future careers. COREQ: PSY 210 and PSY 210L.

PSY 220 Lifespan Development (3,0,3) Psychological theory and research on physical, cognitive, personality, and social development across the life span. Students receiving credit for PSY 220 cannot also receive credit for either PSY 319 or PSY 320. A general education course (behavioral sciences). PREREQ: PSY 100.

PSY 291W Writing in Psychology (3,0,3) Practice in types of writing most commonly encountered in psychology (case study, literature review, and report of an empirical study). A general education course (English composition). PREREQ: major in psychology, PSY 100, one additional course in psychology, ENG 101, and sophomore standing.
PSY 300 Personality Psychology (3,0,3) Overview of research findings in personality psychology; emphasis on empirically supported conclusions regarding personality. PREREQ: PSY 100.

PSY 302 The Human Side of Work (3,0,3) Psychology of work behavior; interpersonal relations and organizational effectiveness; communication, morale, stress, leadership styles, values, ethics, problem solving techniques, and cross cultural aspects of the work experience. The approach to learning is experiential and may include some field assignments. PREREQ: PSY 100.

PSY 304 Consumer Psychology (3,0,3) Psychological methods and concepts used to understand, explain, and predict the dynamics underlying, influencing, and determining consumer behavior; research methodology, individual and group influences, product attributes, promotional techniques, and consumer decision making. PREREQ: PSY 100.

PSY 305 Psychological Testing (3,0,3) Basic principles, applications, and issues as related to psychological testing and assessment; review and evaluation of widely used tests in major areas of application: intelligence, personality, achievement, aptitude, and vocational. PREREQ: PSY 100.

PSY 309 Psychology of Perception (3,0,3) Current theories and research in understanding visual perception of color, movement, and illusions; perception in other sensory modalities. PREREQ: PSY 100.

PSY 309L Perception Laboratory (1,2,2) Laboratory to accompany PSY 309. PREREQ: PSY 210 or equivalent; PREREQ or COREQ: PSY 309 or equivalent.

PSY 311 Biopsychology (3,0,3) Basic assumptions, theories, and empirical data relating neurobiological mechanisms and psychological processes of behavior; structural functional relationship of parts of the nervous system and their role in behavior. PREREQ: PSY 100.

PSY 311L Biopsychology Laboratory (1,2,2) Laboratory to accompany PSY 311. PREREQ: PSY 210 or equivalent and consent of instructor; PREREQ or COREQ: PSY 311 or equivalent.

PSY 319 Child Development (3,0,3) Psychological theory and research on developmental and individual differences among children in the physical, cognitive, personality, and social domains; biological, psychosocial, and cultural contextual causes for these differences. Students receiving credit for PSY 319 cannot receive credit for PSY 220. PREREQ: PSY 100.

PSY 320 Adult Development (3,0,3) Psychological development from adolescence through adulthood; physical, intellectual, social, and personality development; developmental tasks involving identity formation, marriage, child rearing, work, retirement, and death. Students receiving credit for PSY 320 cannot also receive credit for PSY 220. PREREQ: PSY 100.

PSY 330 Behavior Modification (3,0,3) Introduction to applied behavior analysis; the use of operant and classical conditioning to analyze and change behavior. PREREQ: PSY 100.

PSY 333 Abnormal Psychology (3,0,3) Symptoms, causes, and treatment of major mental disorders; research methods in psychopathology. PREREQ: PSY 100.

PSY 337 Animal Learning (3,0,3) Behavioral methodology, theory, and empirical basis of the scientific study of learning; classical and instrumental conditioning, discrimination and generalization, and the role of reward, punishment, and other motivational variables. PREREQ: PSY 100.

PSY 338 Cognitive Processes (3,0,3) Cognitive methodology, theory, and empirical basis of the scientific study of human memory and information processing; thinking; problem solving; concept formation. PREREQ: PSY 100.

PSY 338L Cognitive Processes Laboratory (1,2,2) Laboratory to accompany PSY 338. PREREQ: PSY 210 or equivalent; PREREQ or COREQ: PSY 338 or equivalent.

PSY 340 Social Psychology (3,0,3) Social perception and social influences on behavior; attribution, attitudes, attraction, aggression, pro-social behavior, compliance, and small groups. PREREQ: PSY 100.

PSY 340L Social Psychology Laboratory (1,2,2) Laboratory to accompany PSY 340. PREREQ: PSY 210 or equivalent. PREREQ or COREQ: PSY 340 or equivalent.

PSY 344 Industrial/Organizational Psychology (3,0,3) Psychological principles in business and industry; motivation, job satisfaction, leadership and communication theory, organizational structure, performance appraisal, personnel testing and selection, training, workplace design, and work environment. PREREQ: PSY 100.

PSY 345 Human Factors Psychology (3,0,3) Humans in the design of manmade objects, facilities, and environments: the human as a system component, human capabilities and limitations, controls and displays, design of aerospace and surface vehicles, and designing for the handicapped. PREREQ: PSY 100.

PSY 348 Environmental Psychology (3,0,3) Review of scientific literature on psychological aspects of interdependence of humans and their environment; environmental perception, effects of physical environment on behavior, physical space and behavior, environmental design, and strategies for preserving the environment. PREREQ: PSY 100.

PSY 350 Training Group Theory and Laboratory Method (3,0,3) Small groups and development of interpersonal effectiveness; individual and group roles; resolution of conflicts; interpersonal trust; helping relationships. Graded pass/fail. PREREQ: PSY 100.

PSY 370 Humanistic Psychology (3,0,3) Humanistic psychology in historical context; Greek, Renaissance, and modern developments; comparison with psychanalysis and behaviorism; major theories of Allport, Fromm, Maslow, Jung, Rogers, Frankl, and Perls; central themes; experience, identity, meaning, freedom, responsibility, and growth in psychology. PREREQ: PSY 100.

PSY 400 Approaches to Psychotherapy (3,0,3) Techniques of psychoanalytic, humanistic, behavioral, and cognitive therapies; evaluation of treatment outcome research. PREREQ: PSY 210, PSY 210L, PSY 333.

PSY 405 Counseling Psychology (2,2,3) Techniques of counseling; skills necessary in therapeutic interviewing; selection, application, and evaluation of appropriate goals, strategies, and tactics of counseling. PREREQ: PSY 100 and junior standing.

PSY 465 Health Psychology (3,0,3) Guided readings, discussions, and evaluations of scientific literature on health and health related behaviors; understanding psychological, social, and biological determinants of health; multi-disciplinary focus. PREREQ: PSY 100 and junior standing.

PSY 475 History and Systems of Psychology (3,0,3) Historical and philosophical basis of contemporary psychology; logic of science; introspectionist, functionalist, purposive, psychoanalytic, behaviorist, gestalt, and cognitive systems. PREREQ: 12 semester hours in psychology.

PSY 492 Research: Psychology (1-3 sem. hrs.) Individually supervised research in an area of faculty expertise; readings, design, data collection, analyses, report writing or presentation of findings. Specific activities assigned by instructor. Up to 3 semester hours may be earned per semester; no more than 6 semester hours of PSY 492 and/or PSY 499 may be applied toward certification of the major. PREREQ: consent of instructor and psychology chair prior to registration.

PSY 494 Special Topics in Psychology (1-3 semester hrs.) Seminar course; topic listed in Schedule of Classes each semester. PREREQ: PSY 100 and consent of instructor.

PSY 499 Independent Study: Psychology (1-3 sem. hrs.) Individually supervised areas of study; archival research, experiments, surveys, and/or applied projects. Specific activity is student initiated and in consultation with instructor. Up to 3 semester hours may be earned per semester; no more than 6 semester hours of PSY 492 and/or PSY 499 may be applied toward certification of the major. PREREQ: consent of instructor and psychology chair prior to registration.
**PSY 550 Organizational Psychology** (3,0,3) Introductory graduate level study in organizational psychology; commitment, involvement, satisfaction, motivation, leadership, power, quality of work-life, and groups/teams. PREREQ: Consent of MSIO director.

**PSY 570 Work Environments** (3,0,3) Introduction to human factors psychology; ergonomics; occupational health and safety; physical and psychological factors influencing the workplace. PREREQ: Consent of MSIO director.

**PSY 580 Cognition in the Workplace** (3,0,3) Judgment and decision-making, heuristics, biases, persuasion, prejudice, diversity, values, and attitude measurement. PREREQ: Consent of MSIO director.

**PSY 594 Special Topics: Psychology** (3,0,3) Advanced seminar course; topic listed in Schedule of Classes each semester. Intended for graduate students and advanced undergraduates. PREREQ: consent of instructor.

**Radiologic Technology**

**RAD 101 Introduction to Allied Health Professions** (1,0,1) Introduction to the professions of respiratory care and radiologic technology, including basic job responsibilities/scope of practice, medical terminology, and patient assessment. More specific information regarding the respiratory care and radiography programs will be presented. Same as RSP 101.

**RAD 200 Introduction to Radiography** (5,1,6) Introduction to program and profession; fundamental radiography principles and procedures; radiography of the chest and abdomen; foundation for all core radiography courses; orientation to clinical policies and procedures; observation of radiographic examinations under direct supervision by registered technologists at clinical sites. PREREQ: admission to radiologic technology program.

**RAD 205 Professional Communication in the Health Sciences** (3,0,3) Introduction to methods of professional communication relative to health care delivery; topics will include medical terminology, computers in medicine, ethical and legal issues, charting, professionalism, and the team concept in health care.

**RAD 208 Radiographic Procedures I** (3,0,3) Radiographic anatomy, positioning, and image analysis of the appendicular skeleton, vertebral column and upper airway. PREREQ: RAD 200. COREQ: RAD 208L.

**RAD 208L Radiographic Positioning Laboratory I** (0,2,1) Radiographic positioning of the appendicular skeleton and vertebral column using simulation and phantoms; supervised practice and film critique. Pass/fail only. COREQ: RAD 208.

**RAD 209 Radiographic Procedures II** (3,0,3) Continuation of RAD 208. Introduction to contrast studies; radiographic anatomy, positioning, and image analysis of the gastrointestinal, biliary and urinary systems, bony thorax, and cranium. PREREQ: RAD 208. COREQ: RAD 209L.

**RAD 209L Radiographic Positioning Laboratory II** (0,2,1) Radiographic positioning of the gastrointestinal, biliary, and urinary systems, bony thorax, and cranium using simulation and phantoms; supervised practice and film critique. Pass/fail only. COREQ: RAD 209.

**RAD 214 Analysis of Radiographic Quality** (3,0,3) Principles of radiographic exposure variables and processing; analysis of the radiographic image; problem-solving approach to practical application of principles. PREREQ: RAD 200. COREQ: RAD 214L.

**RAD 214L Analysis of Radiographic Quality Laboratory** (0,2,1) Laboratory demonstration and experimentation coordinated with principles taught in RAD 214. PREREQ: RAD 200. COREQ: RAD 214.

**RAD 216 Physical Principles of Radiographic Equipment** (4,0,4) Principles of electromagnetism and the relationship to radiographic circuitry and equipment; construction and design of radiographic, fluoroscopic, mammographic, tomographic, and digital equipment. PREREQ: RAD 214.

**RAD 286 Radiographic Practicum I** (1,16,3) Clinical application of principles of radiographic positioning, technique, and radiation protection; competency in chest, abdominal, appendicular skeleton, vertebral column, shoulder, and pelvic girdle radiography. Conducted under supervision of registered radiographers and clinical faculty. PREREQ: RAD 200.

**RAD 296 Radiographic Practicum II** (1,16,3) Clinical application of principles of radiation protection and of radiographic positioning and technique; competency in portable radiography and in radiography of the cranial and G-U and G-I systems. Conducted under supervision of registered radiographers and clinical faculty. PREREQ: RAD286.

**RAD 299 Independent Study** (1-3 sem. hrs.) Individual readings, research, and/or clinical based coursework developed by the student in consultation with the instructor and approved by the radiologic technology program director prior to registration.

**RAD 303 Radiographic Procedures III** (3,0,3) Pediatric, geriatric, trauma, and surgical radiography; mammography; introduction to specialized non-vascular and vascular radiographic procedures and equipment; lecture/discussion and guest speakers. PREREQ: RAD 209.

**RAD 310 Advanced Radiographic Anatomy** (3,03) Cross-sectional human anatomy with emphasis on differentiating between normal and abnormal variants; neurological, vascular, cranial, and spinal anatomy related to specialized medical imaging techniques. PREREQ: RAD 334.

**RAD 315 Ultrasonography: Physics and Instrumentation** (3,0,3) Principles of ultrasound production, wave propagation, and ultrasound/tissue interactions; applications of principles to image production and equipment controls; bioeffect considerations and quality assurance assessments. Assumes a knowledge of elementary algebra. PREREQ: registered radiographer or consent of instructor.

**RAD 325 Ultrasonography: Abdomen, Neck, and Thorax** (3,0,3) Physiology and sectional anatomy of the upper abdomen including liver, pancreas, biliary tree, abdominal vascular structures, kidneys, spleen, and retroperitoneal structures; scanning techniques and pitfalls; clinical correlations and considerations associated with pathology.

**RAD 326 Ultrasonography: Obstetrics and Gynecology** (3,0,3) Physiology and sectional anatomy of the female pelvis; embryological and fetal development; identification of normal and abnormal fetal structures and associated pathology; antepartum monitoring techniques; scanning techniques and pitfalls; clinical correlations and considerations associated with pathology.

**RAD 330 Radiology Department Planning** (3,0,3) Analysis of the structural, functional, and organizational characteristics of radiology departments; equipment acquisition, shielding installation, work-flow patterns, and the staffing process.

**RAD 334 Specialized Medical Imaging** (3,0,3) Introduction to specialized imaging and therapeutic modalities, including CT scanning, digital imaging, MRI, medical sonography, bone densitometry, nuclear medicine, and radiation therapy; sectional anatomy and related procedures and equipment. PREREQ: RAD 303.

**RAD 340 Radiation Biology and Protection** (3,0,3) Biological effects of ionizing radiation; radiation safety requirements and procedures; laboratory demonstration/experimentation. PREREQ: RAD 216.

**RAD 350 Clinical Pathology for Radiographers** (3,0,3) Anatomy, pathology, and mechanisms of disease with its radiological manifestation in radiographic studies; case studies; radiology presentations. PREREQ: RAD 303 and BIO 209.

**RAD 360 Quality Assurance** (1,2,2) Clinical and administrative aspects of quality assurance to include: elements of QA; risk management; data collection and reporting; involvement of appropriate personnel; financial implications of QA; quality control of diverse radiology equipment; accreditation standards. PRE-REQ: RAD 216.

**RAD 376 Radiographic Practicum III** (0,16,2) Clinical application of principles of radiation protection and of radiographic positioning and technique; competency in radiography of the skeletal and digestive systems. Five-week internship that includes a one-week evening assignment; conducted under supervision of registered radiographers and clinical faculty. PREREQ: RAD 296.
RAD 386 Radiographic Practicum IV (1,16,3) Clinical application of principles of radiographic positioning, technique, and radiation protection; competency in surgical and non-routine radiography and continued competency in routine skeletal and contrast studies. Conducted under supervision of registered radiographers and clinical faculty. PREREQ: RAD 376.

RAD 394 Seminar: Radiography (1,0,1) Comprehensive review and assessment of essential concepts in radiography; preparation for the ARRT examination. PREREQ: RAD 340.

RAD 396 Radiographic Practicum V (0,24,3) Clinical application of principles of radiographic positioning, technique, and radiation protection; introduction to advanced medical imaging modalities; continued competency development in non-routine radiography. Conducted under supervision of registered radiographers and clinical faculty. PREREQ: RAD 386.

RAD 410 Radiology Department Management (3,0,3) Basic applied radiology management functions; personnel and patient scheduling; purchasing procedures; budget and quality control processes; organizational relationships and authority.

RAD 440 Radiology Management Practicum (0,24,3) Selected placement of qualified students in an affiliate hospital radiology department; work experience includes scheduling and evaluation procedures, quality assurance procedures, and equipment acquisition planning. Practicum will be contracted between student, faculty advisor, and hospital preceptor.

RAD 450 Advanced Imaging Pathology (3,0,3) Anatomy, pathology, and mechanisms of disease with its radiological manifestation in nuclear medicine, CT, MRI, cardiac and vascular imaging, ultrasound, doppler, and mammography studies; case studies; radiology presentations.

RAD 470 Topics: Advanced Imaging (3,0,3) In-depth study of theory, principles, and applications of magnetic resonance imaging, computed tomography, or vascular imaging. Offered according to demand and interest of students at discretion of radiologic technology faculty. Topic announced in the Schedule of Classes. May be repeated, when topics vary, for a maximum of 9 semester hours. PREREQ: RAD 396.

RAD 490 Senior Seminar (2,0,2) Discussion of current issues and problems related to health care professions. PREREQ: senior standing.

RAD 496 Practicum: Advanced Imaging (0,24,3) Clinical application of principles of CT, MRI, or special procedures; content includes procedures, equipment, image production and/or scanning techniques. Conducted under supervision of registered technologists and clinical faculty. May be repeated for a maximum of 9 semester hours. PREREQ: RAD 396.

RAD 499 Topics: Radiology (3,0,3) Intensive study of a special topic or issue in radiologic technology through independent study. May be repeated for credit.

REL 181 Survey of the Hebrew Bible (Old Testament) (3,0,3) Major figures, main themes, basic values, and primary beliefs found in the Hebrew Bible in its religious, philosophical, political, and historical contexts. A general education course (history or humanities).

REL 182 Survey of the New Testament (3,0,3) Major figures, main themes, basic values, and primary beliefs of New Testament writings in their religious, philosophical, political, and historical contexts. A general education course (history or humanities).

REL 185 Survey of Christianity (3,0,3) Main beliefs, figures, orientations, and branches of the Christian tradition; contemporary movements and issues. A general education course (history or humanities).

REL 186 Introduction to Judaism (3,0,3) Introduction to the history of Judaism, major beliefs, branches, ceremonies and rituals central to contemporary Jewish life. This course is sponsored by the Jewish Chautauqua Society. A general education course (history or humanities).

REL 201 Ideas in Religious Studies (3,0,3) Issues and/or works in religious studies revolving around a selected theme or concern. May be repeated as topics vary. A general education course (humanities).

REL 250 Religion and Ethics (3,0,3) Comparative study of the ethical dimension of the world religions: moral ideals, models of virtue, codes of ethics; views on topics such as the relation between the sexes, race, work, human rights, political responsibility, and war; focus mainly upon Hinduism, Buddhism, Islam, Judaism, and Christianity.

REL 260 Human Religious Experience (3,0,3) Various facets of the experiential dimension of religion (e.g., the religious life, the communication of religious experience, religious autobiography, theories of the nature and function of religious experience, and mysticism).

REL 320 Religion in America (3,0,3) Reading and discussion of writings of representative contemporary theologians and writers; development of awareness of basic issues and patterns in recent theological thinking.

REL 325 African American Religious Experience in America (3,0,3) Religion in shaping the historical cultural and spiritual sojourn of African Americans. Topics include the roots, history, and diversity of African American religious expression; its values, norms and traditions; the role of women; and its relation to popular culture. A general education course (race/gender) and may count toward minor in Afro-American Studies. PREREQ: RAD 386.

REL 330 Contemporary Religious Thought (3,0,3) Reading and discussion of writings of representative contemporary theologians and writers; development of awareness of basic issues and patterns in recent theological thinking.

REL 370 Religion and Science (3,0,3) Various approaches to the relationship between religion and science; historical conflict; the developing dialogue between religion and science; cosmology; evolution. The course seeks to introduce students to a wide range of concerns and does not presuppose detailed knowledge of religion or science. A general education course (humanities). PREREQ: sophomore standing.

REL 394 Topics: Religious Studies (3,0,3) In-depth examination of a major thinker, school, or issue in religious studies. Topic announced in Schedule of Classes. May be repeated as topics vary. PREREQ: 3 semester hours in religious studies or philosophy.

REL 594 Topics: Religious Studies (3,0,3) Selected topics in religious studies. May be repeated as topics vary. PREREQ: consent of instructor.

REL 599 Independent Study (3,0,3) Individually supervised readings and study of a selected topic in religious studies. May be repeated as topics vary. PREREQ: consent of instructor.

RSP 101 Introduction to Allied Health Professions (1,0,1) Introduction to the professions of respiratory care and radiologic technology, including basic job responsibilities/scope of practice, medical terminology, and patient assessment. More specific information regarding the respiratory care and radiography programs will be presented. Same as RAD 101.

RSP 201 Fundamentals of Respiratory Care (4,0,4) Introductory respiratory care theory and procedures; medical terminology and mathematics review; basic respiratory system anatomy and physiology; pharmacology and administration procedures for aerosolized medications; theory and equipment for oxygen therapy, pulse oximetry, hyperinflation therapy, and mucus clearance techniques; principles of infection control. PREREQ: admission to respiratory care program. COREQ: RSP 201L and RSP 286.

RSP 201L Patient Assessment Lab (0,2,1) Demonstration and practice in basic respiratory care procedures; proper body mechanics, patient assessment, administration of oxygen therapy, bland aerosol therapy, incentive spirometry, aerosolized medication, and mucus clearance techniques. COREQ: RSP 201.

RSP 220 Ventilatory Support (3,0,3) Theory and application of procedures and equipment used for airway management, non-invasive ventilatory support, car-
diopulmonary resuscitation, ECG arrhythmia recognition and treatment, bland aerosol and humidity therapy, arterial puncture, pharmacological treatment of infectious processes, and equipment disinfection and sterilization. PREREQ: RSP 201-201L. COREQ: RSP 220L.

RSP 220L Respiratory Lab II (0,2,1) Demonstration and practice in intermediate respiratory care procedures: hand ventilation, nasotracheal and endotracheal suctioning, lung volume expansion therapies, cardiopulmonary resuscitation, tracheal tube care, and blood oxygen monitoring by means of pulse oximetry and arterial puncture. PREREQ: RSP 201-201L. COREQ: RSP 220.

RSP 235 Respiratory Physiology and Physics (3,0,3) Functional anatomy of respiratory systems structures; mechanics and control of ventilation; pulmonary blood flow and the matching of ventilation with perfusion; acid-base balance and the interpretation of blood gases; oxygen transport and the concepts of shunting and dead space; physics of gasses applicable to respiratory care. PREREQ: RSP 201-201L and BIO 208-208L. COREQ:BIO 209-209L.

RSP 286 Clinical Practicum I (0,16,2) Professionally supervised experience in basic respiratory care procedures in acute-care hospitals: oxygen administration, lung expansion therapies, aerosolized medication administration, and mucus clearance techniques; proper documentation and preparation of clinical case reports. COREQ: RSP 201 and RSP 201L.

RSP 296 Clinical Practicum II (0,16,2) Professionally supervised experience in basic and intermediate respiratory care procedures; suctioning, hand ventilation, arterial puncture, phlebotomy, CPR, and care of patients with artificial airways; developing skill in time management, organization and effective communication with other health care professionals. PREREQ: RSP 286. COREQ: RSP 220-220L.

RSP 299 Independent Study: Respiratory Care (1-3 sem. hrs.) Individually supervised work involving readings, research, and/or clinical activities in areas of special interest or need. Topics, activities, and evaluation procedures specified by instructor and approved by program director prior to registration. May be repeated for a maximum of 6 semester hours.

RSP 310 Artificial Ventilation (3,0,3) Theory and procedures for providing artificial ventilation to patients in respiratory failure; indications for ventilatory support; techniques for evaluating ventilatory reserve; management and weaning of patients on ventilators; critical thinking in application of PEEP, IMV, Pressure Support, and other modes of respiratory therapy used for critical patients. PREREQ: RSP 220-220L. COREQ: RSP 310L.

RSP 310L Respiratory Lab II (0,2,1) Demonstration and practice with procedures and equipment used for the artificial ventilation, weaning and monitoring of patients requiring life support; pre-clinical training with the ventilators and procedures needed for RSP 386 Respiratory Practicum III, involving clinical experience with patients on artificial ventilation in area hospitals. PREREQ: RSP 220-220L. COREQ: RSP 310.

RSP 331 Cardiopulmonary Monitoring and Pharmacology (2,0,2) Theory, procedures, and instrumentation used to evaluate hemodynamic function; application of hemodynamic monitoring via pulmonary artery catheter; interpretation of pressure waveforms and measurements and cardiovascular calculations; pharmacological treatment of cardiovascular disturbances; recent advancements in critical care.

RSP 333 Pulmonary Function Testing (2,0,2) Theory, procedures, and instruction used to evaluate lung function; differentiation of obstructive from restrictive lung defects and guidelines for determining the degree of impairment; interpretation of sample PFTs; quality assurance procedures, blood gas analyzers, and capnography.

RSP 340 Pulmonary Rehabilitation (2,0,2) Components of a pulmonary rehabiliation program; physiological and psychosocial problems of patients with chronic pulmonary disease; design and implementation of a program of education and exercise tailored to meet needs of the individual patient.

RSP 350 Chest Diseases (3,0,3) Assessment techniques for pulmonary disease patients including history taking, chest physical exam, basic X-ray, lab study, and PFT interpretation; clinical presentation, pathology, and management of common pulmonary diseases-asthma, chronic bronchitis, emphysema, bronchiectasis, pneumonia, pulmonary embolism, heart failure, chest trauma, sleep apnea, adult respiratory distress syndrome, and neuromuscular disorders.

RSP 362 Prenatal-Pediatric Respiratory Care (3,0,3) Prenatal lung development, fetal circulation, and changes at birth; differences in respiratory anatomy and physiology between young children and adults; specialized techniques of airway management and artificial ventilation; applications of respiratory system monitoring and therapeutic modalities; respiratory diseases commonly seen in pediatrics. PREREQ: RSP 310. COREQ: RSP 396.

RSP 386 Clinical Practicum III (0,16,3) Artificial ventilation to patients on life support; initial ventilator set-up, control adjustments, monitoring, circuit changes, and weaning; further experience with artificial airways and routine respiratory care procedures in the critical care setting. PREREQ: RSP 296. COREQ: RSP 310-310L.

RSP 396 Clinical Practicum IV (0,16,3) Further experience in applications of respiratory care in the intensive care unit, cardiopulmonary monitoring, applications of pulmonary rehabilitation, pediatric respiratory care. PREREQ: RSP 296. COREQ: RSP 331 and RSP 362.

RSP 441 Disease Management I (3,0,3) Students will review the delivery of health care to chronically ill patients with lung and heart disorders with emphasis on the respiratory care. Patient case reviews will utilize a multidisciplinary approach to case management and responsibilities unique to the respiratory therapist. This course will aid those wishing to become certified asthma educators.

RSP 442 Disease Management II (3,0,3) Students will review the rationale and methods used in cardiopulmonary diagnostics and cardiopulmonary rehabilitation in hospital-based programs, long-term care facilities and in the home. Patient case reviews will utilize a multidisciplinary approach to case management and responsibilities unique to the respiratory therapist. PREREQ: RSP 441.

RSP 451 Polysomnography I (2,1,3) This course is designed to provide both didactic and laboratory training for entry-level personnel in the basics of Polysomnographic Technology. Students will become familiar with medical terminology, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions related to Polysomnographic Technology. Laboratory sessions will provide practical experience in the skills required of an entry-level Polysomnographic Technologist.

RSP 452 Polysomnography II (2,2,3) Presentation and discussion of psychomotor practices related to interpretation of the polysomnogram for adult and pediatric patients. Emphasis on therapeutic equipment, protocols, artifact recognition and troubleshooting of the equipment.

RSP 480 Respiratory Care Seminar (3,0,3) Contemporary ethical and legal issues affecting the practice of respiratory care; effects of managed care and other market forces on departmental operations; resume preparation and other job search skills; preparation for and practice with Entry Level, Written Registry, and Clinical Simulation examinations for self-assessment. PREREQ: junior status in the respiratory care program.

RSP 486 Clinical Practicum V (0,16,3) Experience providing neonatal respiratory care; training in airway management techniques; development of leadership and time management skills; summative clinical rotations. PREREQ: RSP 396.

RSP 496 Respiratory Clinical VI (3,0,3) Students will complete clinical competencies focused in the areas of specialization of either disease management or polysomnography.

Radio/Television

RTV 100 Contemporary Mass Media (3,0,3) Basic concepts of mass communications; roles and functions of mass media in today's society; analysis of operation of major mass media. Same as JOU 100.

RTV 105 Race, Gender, and the Mass Media (3,0,3) Mass media's influence on perceptions of race and gender in the U.S.; historical development of gender and ethnic stereotypes; mass media's relation to politics and economics; discrimina-
tory practice in the media industry; effect of communication education; alternative media. A general education course (race/gender).

RTV 110 Introduction to Telecommunications (3,0,3) Introduction to program and profession; organization, operations, programming, audience measurement, and impact of electronic media; legal, economic, and social controls of radio, television, cable, new media, and corporate media within a framework of the historical development of telecommunications. PREREQ or COREQ: RTV 100.

RTV 205 Introduction to Popular Culture (3,0,3) Major areas of popular culture studies; values and attitudes expressed in and passed on by activities, objects and entertainment forms of popular culture. A general education course (social science).

RTV 210 Television Production I: Basic Production (2,4,3) Introduction to small format, video program design and development; theory and practice of single camera videotaping and editing; modes of storytelling. PREREQ: Completion of RTV 110 with a “C” or better.

RTV 215 Radio Production (3,3,3) Theory and practice in planning and producing a selective group of audio program elements typical of the present industry; coordinating the control console, turntables, tape cartridge machines, and tape recorders; audio recording, mixing, and tape editing. PREREQ: Completion of RTV 110 with a “C” or better.

RTV 230 Broadcast Announcing (3,0,3) Theory and practice in delivery techniques for radio and television, including work on voice, diction, and pronunciation; development of a cultural framework essential for versatility in announcing; interpretation of the most commonly used scripts in broadcasting; the studio interview. PREREQ: RTV 215.

RTV 260 Broadcast Writing (3,0,3) Non-journalistic writing techniques and styles used in television and radio including narrative and documentary modes of story telling. PREREQ: 20 or higher on ACT English section.

RTV 265 Broadcast News Writing (3,0,3) Principles and practice of writing and editing news for the electronic media; development of an effective broadcasting style, conciseness, and accuracy for hard news and features; basic reporting and interviewing techniques, electronic news gathering, rewriting, editing, and compiling. PREREQ: 20 or higher on ACT English section.

RTV 296 Radio and Television Exploratory Internship (1-3) Entry-level internship in media related organization (broadcast, cable, internet, or non-broadcast media production facility). Explore work and career opportunities in programming, writing, production, sales, engineering promotion and/or media management. PREREQ: Completion of RTV 110 with a “C” or better. Open only to RTV majors.

RTV 305 Television Production II: Studio Production (2,4,3) Principles and techniques of directing both scripted and non-scripted multi-camera studio-based productions; examination of problems of the director and aesthetics of television; discussion, selected readings, and productions. PREREQ: RTV 210 with a C or better.

RTV 307 Broadcast Programming (3,0,3) Strategies of program selection, scheduling, and evaluation; audience ratings, research, and analysis. PREREQ: Completion of RTV 110 with a “C” or better.

RTV 308 Broadcast Sales and Advertising (3,0,3) Pricing, promotions, and selling techniques in television and radio; campaign development, purchase and sale of time, and social responsibility in advertising. PREREQ: Completion of RTV 110 with a “C” or better.

RTV 309 Broadcast Promotion (3,0,3) Principles and problems of the promotion of broadcasting both from within the media of television and radio and through outside channels; promotion problems in network-affiliated and independent commercial stations and in non-commercial facilities. PREREQ: Completion of RTV 110 with a “C” or better.

RTV 310 Advanced News Production (2,4,3) Advanced electronic news gathering and electronic field production techniques with emphasis on broadcast quality scripting, tapping, and editing. PREREQ: RTV 210 and RTV 265 with a C or better.

RTV 311 History of Broadcasting (3,0,3) Development of electronic media, principally in the U.S., from their origin as 19th century instruments of science to the present; broadcasting as a vehicle of expression and as an industry.

RTV 315 Television Performance (2,4,3) Theory and practice in television performance techniques; interpretation and use of scripts in television; various non-scripted types of performance; work on the commercial, the public service announcement, the newscast, and the interview. PREREQ: RTV 230.

RTV 320 Advanced Sound Production (2,4,3) Practicum in advanced sound production; experience in production of various radio program formats including dramatic documentary, cultural affairs, and public affairs programming; advanced skills in commercial production, 4-track recording, and mix-down technique. PREREQ: RTV 215.

RTV 325 Advanced Television Performance (2,4,3) Intensive practice in the form of television performance currently employed in both commercial and non-commercial television; the dramatic and comedy sequence, announcing, hosting, and news reporting. PREREQ: RTV 315.

RTV 345 Japanese Popular Culture (3,0,3) Postwar Japanese society and culture; beliefs and values, gender roles, daily experience, popular and entertainment forms. PREREQ: RTV 205, JPN 101. A general education course (non-western)

RTV 355 Mass Media Practices (3,0,3) In-depth analysis of a mass medium's practices including production, financing, marketing, personnel, policies, and organizational structures. May be repeated if focused mass medium different.

RTV 361 Advanced Broadcast Newswriting (3,0,3) Intensive practice of writing and editing news for the electronic (traditionally broadcast) media; advanced reporting and interviewing techniques; refinement of broadcast news writing style including conciseness, accuracy, editing and developing voiceovers and packages, and writing for particular media. PREREQ: RTV 265.

RTV 365 Interviewing (3,0,3) Theory and principles related to a variety of interviewing settings: employment, information, and advising; role of interviewer and interviewee; use of role playing; outside class exercises such as real interviews and written reports. Same as JOU 360 and SPE 360.

RTV 370 International Media Systems (3,0,3) Regional and global telecommunications and media systems in relation to social, cultural, economic, and political factors: comparative analysis of the major media systems of the world.

RTV 380 Documentary Theory and History (3,0,3) Development of film and television documentary mode; theoretical paradigms used to critically study documentaries.

RTV 394 Topics: Radio-Television (3,0,3) Focused study of a specific and significant topic concerning radio-television. Topics vary from semester to semester. May be repeated once for credit.

RTV 396 Practicum: Radio and Television (1-3 sem. hrs.) Supervised working experience in producing, directing, and/or managing audio and/or video production. Placement is on the basis of student interest, personnel needs of the broadcasting or production facilities, and faculty recommendation. May be repeated for maximum of 6 semester hours. PREREQ: written consent of supervising faculty member.

RTV 396 Practicum: Radio and Television (0,12,3 or 0,24,6) Selected placement of qualified students in off-campus telecommunications (television, radio, or audio) facilities. Work experiences include programming, writing, production, sales, promotion, and management and may involve broadcast or non-broadcast facilities. PREREQ: written consent of the supervising faculty member, junior or senior standing; GPA of at least 2.75.
RTV 396 Internship: Radio and Television (0,12,3) Continuation of supervised working experience in some phase of the operation of WRFN radio or the NKU television production studios. Placement is on the basis of student interest, personnel needs of the broadcasting or production facilities, and faculty recommendation. PREREQ: written consent of supervising faculty member.

RTV 397 Projects: TV (1-3 sem. hrs.) Practical application of various broadcasting techniques. May be repeated for a maximum of 4 semester hours.

RTV 397 Projects: Audio (1-3 sem. hrs.) Practical application of various broadcasting techniques; production of radio programs for on-campus distribution and for broadcast on local stations. May be repeated for a maximum of 4 semester hours. PREREQ: RTV 215 and RTV 230.

RTV 400 Broadcast Criticism (3,0,3) Seminar designed to develop an increased sensitivity to the effectiveness of broadcasting in fulfilling its societal role both as an art form and as a vehicle for the dissemination of information to society. Criteria of criticism are developed largely in response to broadcast programming. PREREQ: junior standing.

RTV 421 Advanced Dramatic Production (2,4,3) Theory and practice in multicamera studio and film style dramatic productions. PREREQ: RTV 210 with a C+ or better.

RTV 422 Advanced Digital Video Editing (3,3,3) Concepts and techniques of digital, non-linear video editing; procedures for digitizing media, and creating video sequences, titles, and basic video effects. PREREQ: RTV 210.

RTV 430 Communication Theories (3,0,3) Theories of interpersonal, group, public, and mass communication; historical developments, paradigms, and research that shape communication theory construction. Same as JOU 430 and SPE 430. PREREQ: junior standing.

RTV 450 Advanced Broadcast Writing (3,0,3) Practice in creative writing for broadcast, expressed in television and radio documentaries, instructional programs, and plays; writing and development of broadcast program units utilizing other literary forms (such as the short story and poem). PREREQ: RTV 260.

RTV 460 Broadcast Management (3,0,3) Management problems in relation to broadcasting from various managerial levels; lower-level management's direct concerns with programming, sales, engineering, and office administration functions; upper-level management's concerns with planning, organizing, motivating, staffing, directing, and controlling. PREREQ: RTV 110.

RTV 499 Independent Study (1-3 sem. hrs.). Individually supervised work involving reading, research and/or production in a specified area of interest. Topic selected before registration in conference with instructor. May be repeated for a maximum of 6 semester hours. PREREQ: junior or senior standing; minimum GPA of 2.50 or consent of instructor; approved independent study proposal.

**Russian**

RUS 101 Elementary Russian I (3,1,4) Basic principles of the Russian language, including study of Cyrillic alphabet, pronunciation, and simple idioms. A general education course (humanities).

RUS 102 Elementary Russian II (3,1,4) Continuation of RUS 101, with addition of new vocabulary and more complex grammar and idiom forms. A general education course (humanities). PREREQ: RUS 101 or equivalent.

**Integrated Sciences**

SCI 110 Integrative Natural Science I (2,3,4) Introduction to the scientific process and major ideas of the natural sciences from the perspective of the various scientific disciplines. A general education course (natural science). PREREQ: Math ACT of 18 or placement. PREREQ or COREQ: ENG 101.

SCI 111 Integrative Natural Science II (2,4,4) Continuation of SCI 110; current issues in science and the environment. A general education course (natural science). PREREQ: SCI 110.

**Sociology**

SOC 100 Introductory Sociology (3,0,3) Concepts and methods, socialization, group processes, social institutions, and social change. A general education course (behavioral sciences).

SOC 110 Introduction to Race and Gender (3,0,3) Issues of race and gender relations in the U.S. and other societies; basic information on race/gender and their forms and functions in multicultural, multiethnic society. A general education course (race/gender perspective).

SOC 202 Juvenile Delinquency (3,0,3) Definition; investigation of evidence and etiology; judicial change and youth corrections. PREREQ: SOC 100.

SOC 203 Sociology of Corrections (3,0,3) Survey of correction systems; historical trends, facilities and programs, alternatives to institutionalization such as probation and parole, and relations to society. PREREQ: SOC 100.

SOC 205 Current Social Issues (3,0,3) Analysis of one or more major current issues, e.g., abortion, nuclear proliferation, poverty, or fundamentalist religious movements; advancement of student comprehension of social issues, using the perspective and methods of sociology. Topic(s) will change regularly and will be announced at time of offering. A general education course (behavioral sciences).

SOC 208 Police and Society (3,0,3) Roles of police as formal social control agents in stratified society; impact of social change on police work; policing as an occupation; changing community standards; social characteristics of police; styles of policing. PREREQ: SOC 100 or LEN 100.

SOC 210 Analysis of Racism and Sexism in the United States (3,0,3) In-depth analysis of the role of social institutions in perpetuating racism/sexism in American society; religion, science, law, political and economic order, education, and mass media. A general education course (race/gender perspective).

SOC 245 Latin American Societies (3,0,3) Contemporary cultures of Latin America; problems of contact, colonization, acculturation, development of the area cultural tradition; contemporary urbanization. A general education course (behavioral sciences or non-western perspective). Same as ANT 245. PREREQ: sophomore standing.

SOC 300 Race and Ethnic Relations (3,0,3) Dominant-minority intergroup relations; prejudice, discrimination, and other intergroup processes; racial and ethnic minorities in U.S. society. PREREQ: SOC 100.

SOC 301 World Patterns of Race and Ethnicity (3,0,3) Patterns of intergroup relations in multi-ethnic societies (e.g., South Africa, Brazil, Israel, and Northern Ireland); similarities and differences between these and U.S. Same as ANT 301. PREREQ: SOC 100 or ANT 100.

SOC 303 Social Psychology (3,0,3) Interactionist approach to study of development of the self; social roles; identity; social relationships; creativity; deviance; social control.

SOC 305 Criminology (3,0,3) Concepts, theories, and major research findings of crime and criminal behavior; analysis of the criminal justice system, including various forms of corrections and rehabilitation. PREREQ: SOC 100.

SOC 307 Social Stratification (3,0,3) Theories of social class; distribution of wealth, prestige, and power in U.S.; patterns of social mobility. PREREQ: SOC 100.

SOC 308 Social Organization (3,0,3) Structure and function of organized groups and organizational behavior; formal organization. PREREQ: SOC 100.

SOC 315 Marriage and the Family (3,0,3) Major theoretical approaches with emphasis on interaction; the family as a social institution, with cultural, social, and emotional implications of dating and mate selection; meeting family crises and problems; marital adjustment; social changes affecting the family. PREREQ: SOC 100.
SOC 318 Sociology of Work and Occupations (3,0,3) An analysis of work and occupations in the global economy as well as the structural forces that impact work in the USA and internationally. PREREQ: SOC 100.

SOC 320 Social Research (4,0,4) Overview of the research process; principles of research design; major methods of data collection; interviewing techniques; hand-on experience with selected research design and analysis. PREREQ: SOC 100.

SOC 321 Applied Social Research (3,0,3) Application of standard social science techniques for analyzing social data; introduction to use of computers, social science software programs, and frequently used statistical routines in processing information generated by research studies. PREREQ: SOC 100; SOC 320 strongly recommended.

SOC 322 Applied Sociology (3,0,3) History of applied sociology; ethical concerns in applied research; program design and implementation; microcomputer applications; need assessments; principles and practice of evaluation research. PREREQ: SOC 100.

SOC 330 Sociological Theory (3,0,3) Major classical and contemporary sociological theories and their exponents. PREREQ: SOC 100.

SOC 332 Collective Behavior (3,0,3) Crowd, mass, and public behavior; relationship to social improvements (especially contemporary); analysis of leadership roles in various types of collective behavior; factors and processes at work in emergence of social order.

SOC 335 Popular Culture (3,0,3) Expression and contest of popular culture as it relates to social change and thought in U.S. during the 20th century; social implications of democratic ideals, sexual mores, arts vs. pornography, youth culture, roles of music and advertising, images of women, and social and ethnic stereotypes. PREREQ: SOC 100.

SOC 340 Population (3,0,3) Fertility, mortality, and internal and international migration; population dynamics; interdependence of demographics and social and economic variable. PREREQ: SOC 100.

SOC 342 Sociology of Aging (3,0,3) Social and demographic characteristics of the elderly population; sociological theories and methods for studying the elderly; adjustment problems of aging; prejudice and discrimination against the elderly. PREREQ: SOC 100.

SOC 350 Women and Crime (3,0,3) Sociological analysis of gender issues for women as victims, offenders, and professionals in law enforcement; power imbalance experienced by women in criminal justice. PREREQ: SOC 100

SOC 355 Sociology of the Environment (3,0,3) Analysis of social causes and consequences of environmental degradation; examination of responses to U.S. environmental problems by government, communities, and environmental organizations; assessment of U.S. environmental policies; application of sociological theory and research methods to environmental issues.

SOC 357 Guns and Society (3,0,3) Social and demographic analysis of the characteristics of the ownership, usage, and impact of guns in the U.S.; cross-cultural perspective on the development of gun cultures. PREREQ: SOC 100.

SOC 360 Technology and Social Change (3,0,3) Sociological analysis of interaction of technology and society; social issues arising with technological advancement; sociological factors influencing the direction of technological change and the adoption of technology; issues of the role of science in contemporary society. PREREQ: SOC 100.

SOC 364 Women and Men in Society (3,0,3) Using major theoretical perspectives, the course provides an analysis of the roles of women and men in American society, as well as cross culturally; provides a greater understanding of the social forces influencing women and men in society. PREREQ: SOC 100.

SOC 369 Sex Crimes (3,0,3) Sociological analysis of patterns of sex crimes and responses to them; primary focus on the United States. PREREQ: SOC 100 or JUS 101.

SOC 380 Elite Deviance (3,0,3) Sociological examination of corporate and governmental deviance. PREREQ: SOC 100.

SOC 381 Deviance and Social Control (3,0,3) Forms of social control used to maintain social order; techniques of control ranging from manners to law. PREREQ: SOC 100.

SOC 391 Research Practicum I (3 sem. hrs.) Placement with agency for supervised experience in developing or applying research skills. Students will also meet with other practicum students and faculty field supervisors. Same as ANT 391. PREREQ: SOC 460.

SOC 394 Topics: Sociology (3,0,3) A recent development in any phase of sociology. See Schedule of Classes for current topic and prerequisites.

SOC 400 Urban Society (3,0,3) Urbanization, industrialization, metropolitanization, and urban ecology; impact of large-scale population aggregations on social institutions; adaptation and adjustment of migrants; developing nations. PREREQ: SOC 100.

SOC 420 Community Corrections (3,0,3) Community-based corrections, including court diversion, probation, parole, and prison release; careers in community corrections; halfway houses, work release, home incarceration, and furlough programs. PREREQ: SOC 100 or JUS 101.

SOC 425 Political Sociology (3,0,3) Theories of power and legitimacy; elites and masses; power structures of U.S. and other societies; social correlates of political ideology; socio-political movements. PREREQ: SOC 100, or PSC 100.

SOC 430 Sociology of Religion (3,0,3) Religion as a social institution; religious behavior; structure and function of religious institutions; interdependence with other social institution. PREREQ: SOC 100.

SOC 450 Medical Sociology (3,0,3) Major sociological theories of sickness and health; social and cultural aspects of disease definition, help seeking, and response to illness; provider-patient roles and relationships; health care delivery systems in various societies. PREREQ: SOC 100.

SOC 455 Comparative Criminal Justice (3,0,3) Different criminal justice systems throughout the world; different legal traditions and comparison of procedures in the adversarial-accusatorial and inquisitorial models of law. PREREQ: SOC 100 or JUS 101.

SOC 460 Research Practicum Preparation (1,0,1) Small-group seminar to introduce practicum skills: finding a placement assignment, writing a project proposal, making a contract, working with agency/business personnel, working in teams, scheduling projects, writing reports, managing time, Same as ANT 460. PREREQ: SOC 322 or ANT 325.

SOC 488 Sociology of Law (3,0,3) Social and cultural factors influencing emergence and maintenance of law as a social institution and affecting relations between law and deviant behavior; theoretical and methodological issues encountered in study of law. PREREQ: SOC 100.

SOC 491 Research Practicum II (3,0,3) Continuation of SOC 391. Same as ANT 491.

SOC 494 Seminar: Sociology Senior Seminar (2,0,2) Senior seminar required as a capstone experience for seniors majoring in sociology. PREREQ: SOC 100 and at least 21 semester hours in sociology and senior standing.

SOC 499 Readings: Sociology (3,0,3) Specialized topics or research interest. PREREQ: consent of instructor.

SOC 520 Sociology of Education (3,0,3) Connection of education to the external social system; education as a web of organizations and associations and as a subsystem of other institutions. PREREQ: consent of instructor.

SOC 594 Topics: Sociology (3,0,3) Selected topics in sociology. May be repeated as topics vary. PREREQ: consent of instructor.
SOC 599 Independent Studies (3,0,3) Individually supervised readings and study of a selected topic in sociology. May be repeated as topics vary. PREREQ: consent of instructor.

Sports Business

SPB 305 Sports Marketing (3,0,3) Sports Marketing will build upon the marketing knowledge base and provide an overview of all the issues faced by marketing managers within the sports industry and outside the industry who market through sports. Students will be introduced to the unique qualities of the sports product and also examine the promotion mix, pricing and distribution issues as they relate to the sports industry. PREREQ: MKT 305.

SPB 308 Sports Promotion Tools (3,0,3) This course is designed to analyze the current factors and issues related to the sports promotion mix, including sponsorship planning, sales and negotiations, advertising and community relations. PREREQ: MKT 305.

SPB 309 Sports Public Relations (3,0,3) Introduction to the element of the promotion mix that identifies, establishes and maintains mutually beneficial relationships between the sports organizations and the various publics on which its success or failure depends.

SPB 330 Sports Legal Environment (3,0,3) This course will explore the landmark decisions and social environment, which have transformed sports into a very powerful industry enjoying special protection under the law. Topics will include sports franchise rights, legal issues, anti trust laws, sports agents, injuries to athletics, intercollegiate sports, collective bargaining issues, the powers of the Commissioner and gender equality. PREREQ: Junior standing.

SPB 396 Internship: Sports Business (3,0,3) Supervised professional work experience in approved sport or sports related organization. PREREQ: SPB 305 or consent of instructor.

SPB 480 Sports Business Strategies and Policies (3,0,3) Application of theories to a wide variety of current issues and problems within the sports industry using case analysis. Open only to students certified as majoring in Sports Business. PREREQ: SPB 308, SPB 330 and senior standing.

Speech

SPE 101 Principles of Speech Communication (3,0,3) Development of understanding of the oral communication process; aid in improving oral communication skills; idea and message development; effective delivery of ideas; Offered every semester. A general education course (oral communication).

SPE 201 Principles of Effective Listening (3,0,3) Understanding of listening behavior; methods of improving listening skills.

SPE 220 Interpersonal Communication (3,0,3) Theories and skills of dyadic interaction in professional and personal contexts; perception, self-concept, non-verbal communication, listening, assertiveness, relationships, conflict management and problem solving.

SPE 230 Small Group Communication (3,0,3) Theories and activities that increase understanding and skills of communication in groups; decision-making, problem-solving, leadership, listening, cohesiveness, climate-setting, conflict, management, groupthink, and systems theory.

SPE 303 Organizational Communication (3,0,3) Organizational communication theories, models, and processes with practical application of these principles in organizational communication speaking exercises; management and leadership communication skills.

SPE 305 Rhetorical Criticism (3,0,3) Principles and methods of rhetorical criticism as it relates to a variety of rhetorical artifacts. PREREQ: SPE 101

SPE 310 Argumentation (3,0,3) Research organization and argument development and testing, regulation, and cross-examination of a controversial issue. PREREQ: SPE 101.

SPE 315 Women in Communication (3,0,3) Course explores the communication and lives of the early feminists who were involved in the abolitionist, temperance, and suffrage movements. Students will learn and understand the importance of these women in relation to contemporary gender issues and barriers through rhetorical analyses of these female leaders' original speech texts.

SPE 320 Advanced Interpersonal Communication (3,0,3) Theories, research, and issues relevant to human interaction and interpersonal relationships. PREREQ: SPE 220.

SPE 330 Political Communication (3,0,3) Communication strategies and tactics employed by candidates seeking public office; political audiences, campaign phases, political debates, political language, advertising campaigns, media coverage, and campaign speeches. PREREQ: SPE 101.

SPE 340 Strategies of Persuasion (3,0,3) Persuasion theory practice, and ethics in preparing and presenting persuasive messages and campaigns. PREREQ: SPE 101.

SPE 355 Cross-Cultural Communication (3,0,3) Theory, criticism, and practice of cross-cultural communication, individual experience in communicating interculturally, and strategies in cross-cultural communication situations.

SPE 360 Interviewing (3,0,3) Theory and principles related to a variety of interviewing settings; employment, information, and advising; role of interviewer and interviewee; role of role playing; outside class exercises such as real interviews and written reports. Same as JOU 360 and RTV 365.

SPE 370 Advanced Public Speaking (3,0,3) Organization, style and delivery of speeches for social occasions, non-classroom settings, and complex setting; speech writing. PREREQ: SPE 101.

SPE 394 Special Topics in Speech Communication (3,0,3) Focused study of a specific and significant topic from a communication orientation. Topics vary from semester to semester. May be repeated once for credit.

SPE 396 Internship: Speech (0,12,3) Selected placement of qualified students in off-campus speech communication related professions; experience in corporate training, speech writing, interviewing, sales, and groups, communication. PREREQ: written consent of supervising faculty member; junior or senior standing; and a GPA of at least 2.75.

SPE 400 Contemporary Public Address (3,0,3) Contemporary speakers and speeches as they relate to social and political issues such as personal vindication, national security, war and peace, and civil rights. PREREQ: SPE 101.

SPE 410 Rhetorical Theories (3,0,3) Theories of principal rhetoricians from ancient to modern times; classical, British, and contemporary periods of rhetoric. PREREQ: SPE 101.

SPE 430 Communication Theories (3,0,3) Theories of interpersonal, group, public, and mass communication; historical developments, paradigms, and research that shape communication theory construction. Same as JOU 430 and RTV 430. PREREQ: SPE 101 and junior standing.

SPE 440 Communication Training and Development (3,0,3) Instruction in design and delivery of communication training programs for specific business contexts; adult learning principles, proposal development, needs assessments, presentation skills, audio/visual aids, and evaluation procedures. PREREQ: SPE 101 and junior standing.

SPE 499 Independent Study (1-3 sem. hrs.) Individually supervised work involving reading, research. Topic is selected before registration in conference with instructor. May be repeated for maximum of 6 semester hours. PREREQ: junior or senior majoring or minoring in speech; a GPA of at least 2.50 or consent of instructor; approved independent study proposal.

Spanish

SPI 101 Elementary Spanish I (3,1,4) Basic principles; oral-aural approach; drill in Spanish intonation, special syntactical problems, and grammar/short readings. A general education course (humanities).
SPI 102 Elementary Spanish II (3,1,4) Continuation of SPI 101. A general education course (humanities). PREREQ: SPI 101 or equivalent.

SPI 180 Elementary Individual Programmed Instruction in Spanish (1,0,1) Individual work for students desiring additional instruction in grammar, pronunciation, vocabulary and cultural topics. May be repeated once for credit. PREREQ: SPI 101 or equivalent and consent of instructor.

SPI 201 Intermediate Spanish I (3,0,3) Review and extension of basic language skills learned in SPI 101 and SPI 102; reading and discussion of cultural, linguistic, and literary subjects. A general education course (humanities). PREREQ: SPI 102 or equivalent.

SPI 202 Intermediate Spanish II (3,0,3) Continuation of grammar review and enhancement of language skills begun in SPI 201; cultural and literary subjects. A general education course (humanities). PREREQ: SPI 201 or equivalent.

SPI 250 Business Spanish (3,0,3) Spanish business terminology; practice in writing and translating business letters. For students majoring in business and other seeking to broaden their career opportunities. PREREQ: SPI 202 or equivalent.

SPI 280 Individualized Programmed Instruction in Spanish (1,0,1) Laboratory exercises for students desiring additional work in grammar, pronunciation, and vocabulary. May be repeated once for credit. PREREQ: SPI 201 or equivalent and consent of instructor.

SPI 301 Spanish Composition and Conversation (3,0,3) Advanced practice in writing Spanish compositions and in oral conversation skills. PREREQ: SPI 202 or equivalent.

SPI 304 Spanish Culture and Civilization (3,0,3) Study of eras, institutions, and issues in the history and culture of Spain and the Iberian peninsula; readings primarily in Spanish. PREREQ: SPI 202 or equivalent.

SPI 311 Spanish-American Culture and Civilization (3,0,3) Eras, institutions, and issues in Spanish-speaking countries of Central and South America; the Hispanic presence in the United States; readings primarily in Spanish. PREREQ: SPI 202 or equivalent.

SPI 320 Survey of Peninsular Spanish Literature (3,0,3) Overview of major authors and movements from the middle ages to the 20th century; readings in Spanish. A general education course (literature or humanities). PREREQ: SPI 202 or equivalent and 3 semester hours of literature.

SPI 321 Survey of Spanish-American Literature (3,0,3) Overview of major authors and movements from the 18th to the 20th century; readings in Spanish. A general education course (literature or humanities). PREREQ: SPI 202 or equivalent and 3 semester hours of literature.

SPI 322 Hispanic Drama (3,0,3) Study of major authors and texts in the history of Spanish theater, including representative twentieth-century playwrights. Readings in Spanish. May be repeated when topics vary. PREREQ: SPI 202 or equivalent.

SPI 323 Hispanic Prose Fiction (3,0,3) Focus on novel, novella, or short story. May be repeated as topics vary. PREREQ: SPI 202 or equivalent.

SPI 350 Methods of Teaching Spanish (3,0,3) Theoretical and practical considerations of teaching Spanish in secondary schools. Required of all students seeking teaching certification in Spanish. PREREQ: 6 semester hours of Spanish at the 300 level or above.

SPI 480 Studies in Spanish and Spanish-American Culture (3,0,3) Topics in culture and language of Spanish-speaking countries. May be repeated for credit when topics vary. PREREQ: 6 semester hours of Spanish on the 300 level or above or consent of instructor.

SPI 481 Studies in Spanish and Spanish-American Literature (3,0,3) Topics in literature, literary history, and literary theory. May be repeated for credit when topics vary. PREREQ: 6 semester hours of Spanish on the 300 level or above or consent of instructor.

SPI 499 Independent Study: Spanish (1-3,0,1-3) Readings in language and literature. PREREQ: consent of instructor.

SPI 520 Readings in Spanish (3,0,3) Various literary, linguistic, cultural, and pedagogical topics. May be repeated for credit as topics vary. PREREQ: 300-level Spanish course.

Social Work

SWK 105 Community Experience in the Social Services (2,4,3) A community service, 40 hour volunteer experience designed to provide students interested in the social work program with an opportunity to test and evaluate their interest in working with people. An accompanying seminar focuses on analysis of the experience. Required of social work students; open to non-social work students.


SWK 303 Professional Interpersonal Skills (3,0,3) Basic components of effective communication in social work practice; interpersonal and interactional skills relevant to different types of relationships and systems with which social workers interact; guided communication experiences. PREREQ or COREQ: SWK 105 and SWK 203; SPE 101 and junior standing for social work students; open to non-social-work students with consent of instructor.

SWK 304 The Human Experience: Theoretical Perspectives (3,0,3) Issues in human development from various theoretical viewpoints; economic, psychological, and socio-cultural factors and their application to social work practice. SWK 105, 203 and junior standing for social work students; open to non-social work students with consent of instructor.

SWK 305 Social Work Practice I (3,0,3) Basic frame of reference for the understanding and practice of social work; various kinds of systems with which the social worker interacts, types of relationships involved and essential generalist/problem solving methodology and skills. PREREQ: SWK 303, 304; COREQ: SWK 306.

SWK 306 Field Instruction I (2,16,5) Field placement in a community setting under professional direction; beginning application of a general practice model using appropriate interventions on behalf of client systems. Assignment of two days per week for one semester. Participation in weekly seminar. COREQ: SWK 305.

SWK 307 The Human Experience II: Literature Perspectives (3,0,3) Human diversity and minority status as expressed in the arts, especially literature and film; analysis of those factors that serve as resources or barriers to individual competency; the relevance of diversity to social work practice. Open to non-social students with consent of instructor.

SWK 308 Social Work Research (3,0,3) Needs assessment, case evaluation, and program evaluation; components of research design and statistics essential for understanding and carrying out these activities.

SWK 394 Topics: Social Welfare (1-3 sem. hrs.) A specific aspect of social work practice or social welfare concern. See Schedule of Classes for current topic and prerequisites.

SWK 404 Social Work Practice: Individuals, Families, Groups (3,0,3) Selected practice modalities applied to social work intervention in small systems; individuals, families, and groups; problem solving approach, task centered case-work, psychosocial model, and behavior modification. COREQ: SWK 406.

SWK 405 Social Work Practice: Community Organization (3,0,3) Social work intervention in groups, organizations, and large systems; knowledge, skill, and appropriate worker role useful in working with neighborhood and community action groups and different types of organizations. COREQ: SWK 408.

SWK 406 Field Instruction II (2,16,5) Field placement of 16 hours per week in a community social service agency under supervision of professional staff;
increased ability to apply knowledge and skill to social work interventions. Participation in weekly seminar. COREQ: SWK 404.

**SWK 407 Social Welfare Policy** (3,0,3) Framework for analyzing social welfare benefits, beneficiaries, service delivery strategies, and financing from the perspective of various choices evolving in social welfare planning; evaluation of programs and services. Open to non-social work students with consent of instructor.

**SWK 408 Field Instruction III** (2,16,5) Continuation of field placement of 16 hours per week in a community social service agency. Application to advanced knowledge and skill in social work intervention. Participation in weekly seminar. COREQ: SWK 405.

**SWK 411 Social Work and the Law** (3,0,3) The interrelationship of social work and the law; understanding the court system; testifying in court; legal services for low income people; legal regulation of social work practice; implications of significant issues involving the social worker.

**SWK 499 Independent Study I** (1-3 sem. hrs) Individual readings, research, or field-based course developed by the student in consultation with instructor and approved by social work chair prior to registration.

**SWK 499 Independent Study II** (1-3 sem. hrs.) Individual readings, research, or field-based course developed by the student in consultation with instructor and approved by social work chair prior to registration.

**SWK 510 Child Abuse** (3,0,3) Historical and contemporary perspectives; etiology, assessment, and intervention; differential and complementary roles of professions; approaches to prevention and treatment.

**SWK 520 Services to Women** (3,0,3) Impact of the feminist movement on the delivery of services and the development of assertiveness training, peer counseling, and self-help.

**SWK 525 Substance Use and Abuse** (3,0,3) Various categories of drugs; treatment and rehabilitation programs; ways of developing and implementing drug education programs.

**SWK 594 Topics: Issues in Social Welfare** (1-3 sem. hrs.) A specific aspect of social welfare practice or social welfare concern. See Schedule of Classes for current offerings and prerequisites.

**Statistics**

**STA 110 Introductory Probability** (3,0,3) Enumeration techniques and probability theory. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

**STA 113 Introduction to Probability and Statistics** (3,0,3) Probability; basic counting techniques; graphical descriptive methods; numerical descriptive methods; normal distribution; sampling distribution of a proportion; estimation of a proportion. Not open to students who have completed both of MAT/STA 110 and STA 205, or both of MAT/STA 110 and STA 212, or STA 250 or STA 314. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

**STA 205 Introduction to Statistical Methods** (3,0,3) Graphical descriptive measures; numerical descriptive measures; probability; hypothesis testing, estimation; analysis of variance; chi-square; regression; analysis by means of statistical software. Credit is not given for both STA 205 and STA 212. Not open to students who have completed STA 250 or STA 314. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

**STA 212 Statistics for Business Applications I** (3,0,3) Concepts of statistical description and inference and their use in business decision making; measures of central tendency and variability; hypothesis testing; estimation; linear regression and correlation; use of statistical software. Credit is not given for both STA 205 and STA 212. Not open to students who have completed STA 250 or STA 314. A general education course (mathematics). PREREQ: C or better in MAH 099 or placement.

**STA 213 Statistics for Business Applications II** (3,0,3) Further development of key topics in STA 212; multiple regression; time series; contingency tables; decision theory; use of statistical software. PREREQ: C or better in STA 212.

**STA 250 Probability and Statistics I** (3,0,3) Introduction to probability and statistics; discrete distributions, continuous distributions, sampling distributions, estimation and hypothesis testing. PREREQ: C or better in MAT 120 or MAT 122.

**STA 312 Elementary Survey Sampling** (3,0,3) Describing sets of data; estimation; elements of survey samples; single random, stratified, cluster, and systematic sampling methods; ratio and regression estimation; sampling from wildlife populations. Students will be required to conduct and analyze an actual survey. PREREQ: C or better in STA 205 or STA 212 or STA 250 or STA 314.

**STA 314 Design and Analysis of Experiments I** (3,0,3) Analysis of variance and experimental design; multiple comparison techniques; factorial experiments; regression, use of programmed routines. PREREQ: C or better in STA 205 or STA 212 or STA 250.

**STA 315 Design and Analysis of Experiments II** (3,0,3) Random and fixed effects models; nested designs, split plot designs; multiple regression; analysis of covariance. PREREQ: C or better in STA 314.

**STA 340 Probability II** (3,0,3) Further study of topics in STA 250; multivariate distributions, approximations, functions of random variables; additional topics. PREREQ: C or better in STA 250 and MAT 220 or MAT 222.

**STA 341 Statistics II** (3,0,3) Further study in statistics topics introduced in STA 250. Topics include confidence intervals and hypothesis testing, one-factor analysis of variance, simple linear regression, chi-square analyses, and nonparametric tests. PREREQ: C or better in STA 250.

**STA 394 Intermediate Topics: Statistics** (3,0,3) Various topics in Statistics. PREREQ: Varies with topic (see Schedule of Classes).

**STA 399 Intermediate Directed Readings** (1-3 sem. hrs) PREREQ: consent of instructor.

**STA 494 Advanced Topics: Statistics** (3,0,3) Various topics in Statistics. PREREQ: Varies with topic (see Schedule of Classes).

**STA 499 Advanced Directed Readings** (1-3 sem. hrs.) PREREQ: consent of instructor.

**STA 594 Topics: Statistics** (3,0,3) Topics in statistics. Topics vary. PREREQ: varies with topic (see Schedule of Classes).

**Theatre**

**TAR 100 Theatre Appreciation** (3,0,3) All aspects of theatre; development of understanding and application from the audience's point of view. Not applicable to major in theatre arts. A general education course (fine arts or humanities).

**TAR 101 Essentials of Theatre** (3,0,3) Basic elements of theatre. Required of students majoring or minoring in theatre arts.

**TAR 102 Survey of Race and Gender in Dramatic Literature** (3,0,3) Discussion and analysis of race and gender issues faced by individuals or families in drama. A general education course (race/gender).

**TAR 110 Acting I** (3,0,3) Basic principles and techniques.

**TAR 111 Creative Expression through Acting** (3,0,3) History, theory and practice tracing the development of the human utilization of acting as a cultural tool within an historical perspective. A general education course (fine arts or humanities).

**TAR 114 Voice Development for the Actor I** (3,0,3) Speech development as related to theatre; elimination of regional accents; introductory work with the International Phonetic Alphabet.
TAR 118 Stage Appearance (3,1,3) Basic principles of stage makeup and elements of costumes as used for the stage.

TAR 130 Musical Skills for the Musical Theatre Actors I (3,0,3) Introduction to basic reading and understanding of musical concepts specific to vocalists; strong focus on the unique demands of the musical theatre.

TAR 160 Stagecraft (2,0,2) Basic elements of scenery construction: overview of theatrical production emphasizing practical application COREQ: TAR 160L.

TAR 160L Stagecraft Laboratory (0,2-4,1) Practical application of elements acquired in TAR 160. COREQ: TAR 160.

TAR 165 Comparative Arts (3,0,3) Comparative study of the evolution of the fine arts as influenced by political-socio-economic conditions. A general education course (fine arts).

TAR 190-191 See TAR 490-491.

TAR 210 Acting II (3,0,3) Additional development of acting techniques and perceptions; greater emphasis on scene work and character development. PREREQ: TAR 110.

TAR 211 Special Topics in Theatre (1-3, 0, 1-3) Introduction to specialized theatre areas of study. May be repeated up to 9 hours.

TAR 213 Stage Combat I (3,0,3) Introduction to stage combat; hand fighting, quarterstaff, broadsword, and rapier and dagger; the stage fight in various periods and styles of dramatic literature. PREREQ: TAR 110.

TAR 225 Musical Theatre Performance I (3,0,3) Introduction to performance techniques; synthesis of voice, acting, and movement; beginning vocal technique as applied to musical theatre repertoire.

TAR 230 Musical Skills for Musical Theatre Actors II (3,0,3) Continuation of TAR 130 dealing with more advanced challenges in musical theatre repertoire. PREREQ: TAR 130.

TAR 235 Vocal Techniques for the Singing Actor I (3,0,3) Private instruction focusing on viable methods for healthy musical theatre singing.

TAR 260 Lighting Fundamentals (3,0,3) Practical exploration of the scientific principles and theories and practices of stage lighting, including electricity, optics, color theory, dimming and control systems. PREREQ: TAR 160.

TAR 262 Costume Construction (2,0,2) Basic principles of costume building with opportunities for practical application in preparing costumes for university productions. COREQ: TAR 262L.

TAR 262L Costume Construction Laboratory (0,2-4,1) Practical application of skills and techniques acquired in TAR 262. COREQ: TAR 262.

TAR 265 Fundamentals of Theatrical Design (3,0,3) Basic elements of design for theatre scenery, props, costumes, sound, and lighting; principles of aesthetics, script analysis, methods of research, development of visual concepts, graphic representations, and final evaluations. PREREQ: TAR 160.

TAR 277 Fundamentals of Sound Technology (3,0,3) Sound reinforcement and sound production for the theatre; basic acoustics, audio components, terminology, recording/assembly techniques, and digital technology; skills necessary to mix sound and to troubleshoot sound systems. PREREQ: TAR 160.

TAR 290-291 See TAR 490-491

TAR 310 Acting III (3,0,3) Advanced acting techniques and considerations; detailed scene analysis and repertory building. PREREQ: TAR 210.

TAR 311 Auditions (3,0,3) Specialized techniques necessary for actors to relate to the auditioning experience; building an appropriate repertory of material, preparing the resume, and developing the “persona.” PREREQ: at least two acting/dance courses.

TAR 312 Voice Development for the Actor II (3,0,3) Advanced speech development techniques and exercises as applied in performance situations; advanced work in Oral Interpretation and Readers Theatre. PREREQ: TAR 112.

TAR 313 Stage Combat II (3,0,3) Advanced stage fighting techniques in various weapons and styles; study in history, terminology, and related dramatic literature; preparation for certification test with Society of American Fight Directors. PREREQ: TAR 213.

TAR 314 Stage Dialects (3,0,3) Methods of producing convincing accents and dialects as an element of vocal characterization. Dialects studied may include: Standard British, Irish, Scottish, Cockney, French, German, American Southern, New York, and New England. PREREQ: TAR 114, TAR 312 and TAR 110.

TAR 315 Voice Development for the Actor II (3,0,3) Advanced speech development techniques and exercises as applied in performance situations; advanced work in Oral Interpretation and Readers Theatre. PREREQ: TAR 114.

TAR 316 Acting Seminar I (2,4-6) Advanced acting coaching and repertory building; scene analysis and character work in relatively small groups for advanced students who have completed preliminary acting training. May be repeated for credit. PREREQ: TAR 310.

TAR 318 Advanced Stage Makeup (3,0,3) Advanced techniques of stage makeup and wig and hair styling. PREREQ: TAR 118.

TAR 325 Musical Theatre Performance II (3,0,3) Development of musical theatre repertoire for audition, study, and performance; synthesis of voice, acting, and movement; various musical theatre genres and historical styles. PREREQ: TAR 225.

TAR 335 Vocal Techniques for Singing Actor II (3,0,3) Continuation of TAR 235 with a focus on expansion of repertoire and styles.

TAR 340 Playscript Analysis (3,0,3) Systems of interpretation applicable to all types of dramatic literature necessary to production of plays and relevant for directors, actors, designers, and other practitioners.

TAR 343 History of Costume and Decor I (3,0,3) Architectural, interior design, costume, and furniture history from antiquity through Baroque period as applied to production design; methods and courses of research for design in theatre. PREREQ: TAR 100 or TAR 101, and TAR 160.

TAR 346 History of the Theatre and Dramatic Literature I (3,0,3) History of significant developments in theatre and dramatic literature from pre-Greek times to the mid-15th century.

TAR 347 History of the Theatre and Dramatic Literature II (3,0,3) History of significant developments in theatre literature from the mid-15th century to 1875. PREREQ: TAR 346.

TAR 355 Musical Theatre Literature I (3,0,3) American musical theatre literature from late 19th century to mid-20th century; musical and dramatic movements that created American musical theatre. PREREQ: ENG 101.

TAR 360 Scene Design I (3,0,3) Principles of design related to stage scenery; historical modes of stage design; 20th century stage decoration. PREREQ: TAR 160.

TAR 361 Design and Construction of Stage Properties and Special Effects (3,0,3) Design skills and building techniques involved in props and effects for the stage. PREREQ: TAR 160.

TAR 362 Drafting for the Theatre (3,0,3) A lecture/project class that teaches the basic techniques and practices of drafting for the theatre. Projects require students to create typical working drawings for theatre productions utilizing industry standards. This course covers the use of mechanical and computer based techniques. PREREQ: TAR 160.

TAR 363 Lighting Design (3,0,3) A lecture/project course exploring art and science of theatrical lighting design. Projects teach students the mechanics and creative processes and theories used in creating lighting designs for the theatre. PREREQ: TAR 260.
TAR 365 Costume Crafts (3,0,3) Specific problems of costume decoration, draping, and projects for musical theatre and opera. PREREQ: TAR 262.

TAR 366 Costume Design I (3,0,3) Application of principles of design to stage costuming; fabrics, figure drawing, and characterization. PREREQ: TAR 368 or consent of instructor; TAR 343 recommended.

TAR 367 Stagecraft II (3,0,3) Advanced techniques and practices used in the construction and application of stage scenery. Topics include budgeting, welding, theatre machinery and equipment, shop organization, and advanced construction techniques. PREREQ: TAR 160.

TAR 368 Theatrical Rendering and Model Building (3,0,3) Techniques employed in sketching and preparing drawings for scenic and costume designs and in constructing models for scenic design. PREREQ: TAR 100.

TAR 370 Directing I (3,0,3) Basic principles of play directing, play selection, casting, and rehearsal; direction and presentation of selected scenes in class. PREREQ: TAR 110 and TAR 160.

TAR 371 Theatre Management (3,0,3) Duties and responsibilities of those entrusted with areas like house management, public relations, and publicity in theatre activities. PREREQ: TAR 160.

TAR 376 Stage Management (3,0,3) Duties and responsibilities of the theatrical stage manager. PREREQ: TAR 160.

TAR 377 Sound Design (3,0,3) Design and aesthetic concerns, design process and techniques; play script analysis, artistic and aesthetic choices, integrating music collaborative process; developing a common dialogue with the director and design team; sound graphics and design documentation including signal flow and system design. PREREQ: TAR 227.

TAR 380 Playwriting (3,0,3) Art and craft of writing dramatic material for stage presentation.

TAR 390-391 See TAR 490-491.

TAR 410 Styles of Acting (3,0,3) Major acting styles; practical application through presentation and evaluation of representative sciences and excerpted materials. PREREQ: TAR 310.

TAR 411 Special Problems in Theatre (Acting) (3-9,0,3-9) Opportunity for additional advanced work in the theatre student’s area of concentration; multiple opportunities for performing artist's involvement in electives in specific areas of interest. PREREQ: TAR 310.

TAR 412 Internships in Professional Theatre (Performance) (3-6,0,3-6) Opportunities for outstanding students in theatre to accept apprenticeships carrying significant responsibilities in major professional theatre operations. The work will be coordinated with a theatre faculty adviser. PREREQ: permission of the chair of the theatre.

TAR 414 NKU Tour Troupe (0,2-6,1-3) Touring performance troupes designed to represent the University in functions around the state and region. May be repeated for credit. PREREQ: audition.

TAR 415 The One Person Show (1,3,3) An introduction to the genre of the one-person show. The course covers the various forms of monodrama. Students will create an outline for a full-length solo show and write and present an excerpt from it in performance. PREREQ: TAR 310 or consent of instructor.

TAR 416 Acting Seminar II (2,4,2-6) Advanced acting coaching and repertory building. Small group work for advanced students who have completed preliminary acting training. May be repeated for credit. PREREQ: TAR 310.

TAR 417 Acting Shakespeare (3,0,3) Basic techniques for performing Shakespeare; practical application through ongoing scene work culminating in a one-person presentation of material from Shakespeare's plays and sonnets. PREREQ: TAR 310 or consent of instructor.

TAR 418 Process and Production (4,0,4) Rehearsal and presentation of a play for an audience within the framework of a laboratory/studio environment. Various rehearsal methods are explored, along with an in-depth examination of the play’s literary, historical, and performance background. May be repeated for a maximum of 8 hours. PREREQ: TAR 110 and TAR 210 and TAR 310 and consent of instructor.

TAR 425 Musical Theatre Performance III (3,0,3) Continuation of TAR 325; advanced techniques in specific areas of musical theatre performance including topical revue, auditioning, solo shows, and musical scenes. PREREQ: TAR 325 and consent of instructor.

TAR 441 Special Problems in Theatre (History, Theory, and Criticism) (3-6,0,1-9) See TAR 411. PREREQ: two TAR Group III courses or consent of instructor.

TAR 442 Dramatic Theory and Criticism (3,0,3) Major documents in dramatic theory and criticism from Plato and Aristotle to the present. PREREQ: consent of instructor.

TAR 443 History of Costume and Decor II (3,0,3) Architectural, interior design, costume, and furniture history from Rococo through contemporary as applied to production design; methods and sources of research for design in theatre. PREREQ: TAR 343 or consent of instructor.

TAR 446 History of the Theatre and Dramatic Literature III (3,0,3) History of significant developments in theatre and dramatic literature from 1875 to present day. PREREQ: TAR 346 and TAR 347.

TAR 452 Special Problems in Theatre (Literature) (3-9,0,3-9) Opportunity for additional advanced work in the theatre student's area of concentration; multiple opportunities for performing artist’s involvement in electives in specific area of interest.

TAR 455 Musical Theatre Literature II (3,0,3) American musical theatre literature from mid-20th century to the present.

TAR 460 Scene Design II (3,0,3) Advanced elements of design for the theatre; historical modes of stage design and advanced examination of design theories related to theatre practice. PREREQ: TAR 360.

TAR 461 Scene Painting (3,0,3) Practical analysis and application of scene painting skills; materials (paints, dyes, fabrics) and equipment. PREREQ: TAR 160 or consent of instructor.

TAR 462 Costume Design II (3,0,3) Advanced theory and techniques; special problems in musicals, operas, children's theatre, and non-traditional styles. PREREQ: TAR 366.

TAR 464 Special Problems in Theatre (Technology) (3-9,0,3-9) Opportunity for additional advanced work in the theatre student's area of concentration; multiple opportunities for performing artist's involvement in electives in specific areas of interest. PREREQ: two TAR Group IV courses or consent of instructor.

TAR 465 Advanced Lighting and Projections (3,0,3) Advanced theory and technique in lighting design for theatre, opera, and dance; automated fixtures, imaging tools, and systems components. PREREQ: 9 semester hours of TAR technology and consent of instructor.

TAR 466 Costume Construction II (3,0,3) Advance costume construction techniques, including pattern drafting, cutting, draping; practical application in preparation for university productions. Spring. PREREQ: TAR 262 or consent of instructor.

TAR 468 Advanced Scenic Art (3,0,3) Advanced projects in painting, sculpting, lettering, and special materials in scenic art for the theatre. PREREQ: TAR 361.

TAR 470 Directing II (3,0,3) Advance principles of directing; history of directing; problems encountered in directing period plays. PREREQ: TAR 370.

TAR 471 Summer Dinner Theatre (3 sem. hrs. each production) Active participation in major roles, both in performance and technology and in production of a
University summer stock theatre operation. May be repeated for credit. PREREQ: permission of the chair of theatre.

TAR 473 Creative Dramatic/Children’s Theatre (3,0,3) Theory and practice of theatre as a teaching and learning experience; theatre for children. PREREQ: TAR 100 or TAR 101 and TAR 110 or TAR 111.

TAR 474 Special Problems in Theatre (Directing/Management) (3,9,3-9) Opportunity for additional advanced work in the theatre student’s areas of concentration; multiple opportunities for performing artist’s involvement in electives in specific areas of interest. PREREQ: TAR 370 and TAR 470, or consent of instructor.

TAR 477 The Business of Theatre (1,0,1) Practical problems of working in the theatre; resume, union affiliation, use of theatrical agents, and additional professional training. PREREQ: senior status or junior status and consent of instructor.

TAR 480 Reviewing (3,0,3) Essential of the research, backgrounds, and sources for criticism of performance events, including theatre, films, television, and dance. Students will write numerous critiques of dramatic events within the community. PREREQ: ENG 10;1 and ENG 291, or ENG 151.

TAR 481 Special Problems in Theatre (Playwriting/Criticism) (3-9,0,3-9) Opportunity for additional advanced work in student's area of concentration; multiple opportunities for performing artist's involvement in electives in specific areas of interest. PREREQ: BFA status.

TAR 482 Screenwriting (3,0,3) Introduction to the elements of film script production and techniques involved in writing for the screen. Same as ENG 491. PREREQ: ENG 101 and ENG 291, or ENG 151; TAR 340 recommended.

TAR 490-491, 390-391, 290-291, 190-191 Production Credits (0,2-4,1) Preparing for participation in college dramatic activities. May be repeated for a maximum of eight semester hours, all of which must be earned through active technical involvement of performance. PREREQ: TAR 160.

TAR 495 Senior Project (0,2-4,1) Individual senior project in theatre required for BFA students. Projects authorized, supervised, and graded by individually appointed faculty. Written agreement between student and faculty member must be submitted to chair before registration. PREREQ: senior BFA status.

TAR 498-499 Individual Studies in Theatre (1-3,0,1-6 each) Individual creative or research projects in one or more areas: playwriting, directing, acting, dance, stagecraft, scene design, costume design, lighting design, sound design, or theory/criticism. Projects directed by TAR faculty must be approved prior to registration. A maximum of 6 semester hours of individual studies may be applied toward a major in theatre arts. PREREQ: consent of chair of theatre.

University Programs

UNV 101 Orientation to College and Beyond (1-3 hrs.) Emphasis on transition into College and development of college survival skills, development of student self-reliance as an active participant in classroom activities, familiarization with available university resources and establishment of learning communities within the University.

UNV 301 University 101 Teaching Internship (3,0,3) Enrolled students will serve as teaching assistants in a University 101 class. Students will assist with class planning, make oral presentations on 101 topics, lead large and small group discussions, provide expertise and serve as role models for new students. Prerequisites: junior standing; minimum GPA of 3.0; instructor consent.

Women's Studies

WMS 150 Introduction to Women's Studies (3,0,3) Interdisciplinary and cross-cultural readings on social, political, economic, and personal condition of women in a multi-ethnic society; complex ways of social construction of gender; interaction of gender, race, and class on women's lives. A general education course (race/gender perspective).

WMS 310 Women, Wages, and Work (3,0,3) Interdisciplinary and multicultural examination of impact of gender, race, sexual orientation, and class on working women in the U.S.; past and present status of women's wages and opportunities; relationships between working women and their employers; cooperation and competition among working women from diverse background. PREREQ: sophomore standing. A general education course (race/gender perspective).

WMS 381 Women and Literature (3,0,3) Advanced readings and discussion of literary works by women or images of women in literature. May be repeated for credit when subjects differ.

WMS 382 Women and Society (3,0,3) Readings and discussion in the general areas of women’s contributions to major historical events, the history of women, or women’s part in social movements or groups. May be repeated for credit when subjects differ.

WMS 383 Women and World Cultures (3,0,3) Readings and discussion of the roles of women in individual world cultures; women’s particular cultures in history or the challenges to women in the cultures of their careers in the modern world. May be repeated for credit when subjects differ.

WMS 384 Women, Nature, and the Inner Self (3,0,3) Philosophical, spiritual or psychological aspects of women’s lives and senses of identity; women caring for the environment; particular achievements by and challenges to women in the sciences and mathematics. May be repeated for credit when subjects differ.

WMS 385 Women and Human Care (3,0,3) Readings and discussion in the general area of caring for the elderly or children; shaping non-sexist practices and behaviors in education; or traditional and alternative social, medical, or mental health services for women. May be repeated for credit when subjects differ.

WMS 386 Women and the Law (3,0,3) Readings and discussion concerning women in law enforcement, the law, or politics; women as the victims of perpetrators of crime; modes of changing the law in issues affecting women. May be repeated for credit when subjects differ.

WMS 387 Women and the Arts (3,0,3) Works representing women’s achievements in theater, art, and music; problematic portrayals of women in the arts and in mass culture; protests through art of issues affecting women’s lives. May be repeated for credit when subjects differ.

WMS 388 African-American Women's History and Culture (3,0,3) This discussion-oriented course is a history of African-American women that begins by examining African women and their cultures prior to European contact and ends with a look at women in the civil Rights Movement. This course satisfies Afro-American Studies history option. Same as HIS 438.

WMS 394 Topics: Women's Studies (3,0,3) Interdisciplinary and intensive study of a specific and significant topic in gender studies. Topics vary from semester to semester. May be repeated for credit when subjects differ. See Schedule of Classes for current topic and prerequisites.

WMS 494 Seminar: Women's Studies (3,0,3) Theory and research practices characterizing women's studies and their effect on traditional academic disciplines; designing research projects. Information and methodology from each discipline presented by women's studies faculty. PREREQ: completion of one women's studies course.

WMS 499 Independent Study (1-3,0,1-3) Individual creative research, or community service projects directed by faculty members. Written agreement between faculty member and student must be submitted to director before registration; elements of agreement to include purpose, objectives, and evaluation procedures. May be taken twice for credit. PREREQ: completion of one woman's studies course.

WMS 594 Topics Women’s Studies (3,0,3) Advanced interdisciplinary study of a specific topic or issue of particular significance to women. May be repeated for credit when subjects differ.