

COURSE DESCRIPTIONS

Single numerals within parentheses reflect course credit hours. Numerals within parentheses separated by a dash reflect credit hours followed by contact hours. For more information students may contact their academic advisers.

3D PRINTING COURSES (3DP)

- 3DP 2220 Fundamentals of 3D Modeling and Printing for Art and Industry (3)**
Introduces students to the fundamental skills required to begin 3D design and printing using CAD (Computer Aided Design) software. Digital design terminology and techniques combined with an understanding of how 3D printers function will be delivered through a series of fundamental projects. Students are also introduced to contemporary discourses in sculpture involving digital fabrication as well as learning about these same practices for industry and how they are in dialogue with one another. Includes access to the 3D Printing Lab.
- 3DP 2225 3D Printing Lab (1)**
Through project-based learning students apply 3D design and printing skills for applied experience with printers and other technologies offered in the lab. May be repeated for credit.
Prerequisite: 3DP 2220.
- 3DP 2230 Large Format Printing and Sustainable Materials for Art and Industry (3)**
Utilizing sustainable materials like recycled plastics, concrete, and clay, this class will explore and experiment with eco-innovative approaches to large format design for sculpture and manufacturing. 3D scanning, scaling, and reverse engineering will also be taught. Includes access to the 3D Printing Lab.
Prerequisites: 3DP 2220.
- 3DP 2240 Contemporary Discourse of Design for 3D Printing(3)**
This course takes up the question of 1) how do we contemporary digital design practices through a lens of human-centered thinking? And, 2) how do we further the dialogue between Art and Industry? Questioning, empathy, collaboration, and interactive workflow processes are applied to unique assignments with these questions in mind. Intermediate CAD (Computer Aided Design) skills will be taught. Includes access to the 3D Printing Lab.
Prerequisite: 3DP 2220.
- 3DP 3320 Constructive Disruption: Design Process and Workflow (3)**
This course will exercise the problem-solving mindsets of sculptors and industrial designers to create constructive disruption in both of these fields. Applying the innovative concepts, designs, production workflows and communication skills learned in the other courses of this program, students will create unique projects that aim for innovation. Includes access to the 3D Printing Lab.
Prerequisites: 3DP 2220.
- 3DP 3330 Product Development and Assistive Design (3)**
Product development will be taught and applied through practical and creative 3D printing projects. Students will learn intermediate solid modeling with an emphasis on assistive design. Includes access to the Virtual and Physical Lab
Prerequisites: 3DP 2220.
- 3DP 4498 3D Design and Production Internship (3-6)**
Students will identify or be partnered with a business or enterprise for internship to gain applied experience with the skill sets developed in 3D

Printing. Includes access to the Virtual and Physical Lab.

Prerequisites: 3DP 2220, 3DP 2230, 3DP 3320 and 3DP 3330 or permission of chair.

ACCOUNTING COURSES (ACT)

- ACT 2291 Principles of Accounting I (3)**
Modern financial accounting theory and practices applied to sole proprietorships, partnerships, and corporations.
- ACT 2292 Principles of Accounting II (3)**
Modern financial and managerial accounting theory and practices applied to an organization's liabilities, cash flows, planning, budgeting, and control.
Prerequisite: ACT 2291.
- ACT 3355 Internal Auditing (3)**
Internal auditing theory as contained in official pronouncement (IIASB, COSO, COBIT, Sarbanes-Oxley). Emphasis will be placed on material required for the CPA exam as it relates to professional ethics, audit engagement procedures, internal control, audit sampling, evidence gathering and auditor's reports.
Prerequisites: ACT 2292.
- ACT 3357 Financial Reporting & Analysis I (3)**
Study of financial accounting concepts and principles related to financial reporting emphasizing income measurement and accounting for assets. Accounting majors must complete this course with a grade of C or better.
Prerequisites: ACT 2292.
- ACT 3358 Financial Reporting & Analysis II (3)**
Study of accounting concepts and principles related to financial reporting of long-term debt, owners' equity and other special items. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3357.
- ACT 3360 Entrepreneurial Accounting (3)**
This course covers small business accounting basics that assist business owners in making business decisions based on accounting information. It emphasizes the triple bottom line reporting that refers to reporting on a company's economic, social, and environmental performance.
Prerequisite: ACT 2292, MGT 4475.
- ACT 3365 Corporate Financial Reporting (3)**
An analysis of the financial reporting issues faced by managers, including preparing, understanding, and analyzing financial reports.
Prerequisites: ACT 2292.
- ACT 3380 Accounting Study Abroad (1)**
Supervised investigation of relevant topics in accounting or business through travel-study abroad or within the interior of United States.
- ACT 3390 Honors Intermediate Accounting II (3)**
Theory and applications of assets, liabilities, and owners' equity, pensions, leases, earnings per share, and analytical process. AThis course is designed for Sorrell Global Scholars honors students. Accounting majors must complete this course with a grade of C or better.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ACT 3391.

- ACT 3391 Intermediate Accounting I (3)**
Theory and applications of assets, liabilities, and owners' equity, revenues, expenses, and analytical process. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 2292.
- ACT 3392 Intermediate Accounting II (3)**
Theory and applications of assets, liabilities, and owners' equity, pensions, leases, earnings per share, and analytical process. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3391.
- ACT 3394 Governmental Accounting (3)**
Analysis of governmental and not-for-profit accounting issues including the preparation and use of budgets, records and statements. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 2292.
- ACT 3395 Managerial/Cost Accounting I (3)**
An analysis of issues dealing with cost accounting and cost management in the global economy from the viewpoint of management, including calculating product costs and period expenses, cost systems for accumulating and managing costs, analyzing cost behavior for tactical decisions, introduction to activity-based costing, ethical principles for management accountants, measuring the costs of quality, and preparing the master budget. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 2292.
- ACT 3396 Accounting Information Systems (3)**
Principles underlying establishment of complete accounting systems; applications to typical business organization; emphasis on the functions of control and protection. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 2292.
- ACT 3398 Honors Managerial/Cost Accounting I (3)**
An analysis of issues dealing with cost accounting and cost management in the global economy from the viewpoint of management, including calculating product costs and period expenses, cost systems for accumulating and managing costs, analyzing cost behavior for tactical decisions, introduction to activity-based costing, ethical principles for management accountants, measuring the costs of quality, and preparing the master budget. This course is designed for Sorrell Global Scholars honors students. Accounting majors must complete this course with a grade of C or better.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ACT 2292.
- ACT 4435 Accounting Analytics (3)**
This course focuses on issues related to accounting, reporting of financial information and data analysis for entities. Students will use data analytical tools through hands-on applications to analyze entity data and assess organizational operations. Accounting majors must complete this course with a grade of "C" or better.
Prerequisite: ACT 2292.
- ACT 4450 Auditing Concepts (3)**
Study of auditing concepts related to professional ethics, audit engagement, internal control, audit sampling, evidence gathering and auditors' reports. Accounting majors must complete this course with a C or better.
*Prerequisite: ACT 3358.
Prerequisite or Co-requisite: ACT 3355.*
- ACT 4451 Introduction of Taxation (3)**
Study of federal tax laws and regulations for individuals and business entities, with an emphasis on components of income, exclusions, allowable expenses, losses and owner distributions. Tax implications of property transactions to both individuals and business entities, and choice of business entity will be introduced. Accounting majors must complete this course with a grade of C or better.
Prerequisites: ACT 2292.
- ACT 4480 Professional Development—Public Accounting (1)**
Examination of professional and pre-professional requirements for entry into the public accounting profession. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3391, ACT 3392, ACT 3394, ACT 3396, ACT 4494. Prerequisites or Co-requisites: ACT 3395, ACT 4491, ACT 4495, ACT 4497.
- ACT 4481 Professional Development – Forensic Accounting (1)**
Analysis of current developments and requirements for entry into the forensic accounting profession. Accounting majors must complete this course with a grade of C or better.
*Prerequisites: ACT 3358, ACT 3394, ACT 3396, ACT 4451, LAW 4425, ACT 4450.
Prerequisites or Co-requisites: ACT 4498.*
- ACT 4482 Professional Development – Management Accounting (1)**
Analysis of current developments and requirements for entry into the management accounting profession. Accounting majors must complete this course with a grade of C or better.
*Prerequisites: ACT 3358, ACT 3355, ACT 3395, ACT 3396, ACT 4451, ACT 4450.
Prerequisites or Co-requisites: ACT 4496.*
- ACT 4485 Fraud Examination I (3)**
The study of legal issues related to fraud prevention, detection and investigation. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 4450.
- ACT 4489 Honors Auditing (3)**
Auditing theory as contained in official pronouncements. Emphasis will be placed on material required for the CPA exam as it relates to professional ethics, audit engagement, internal control, audit sampling, evidence gathering and auditors' reports. This course is designed for Sorrell Global Scholars honors students. Accounting majors must complete this course with a grade of C or better.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ACT 3392.
- ACT 4491 Advanced Accounting (3)**
An analysis of the theory and applications of accounting for business combinations, partnerships, and foreign currency transactions and translations. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3392.
- ACT 4492 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
Note: This course may not be substituted for any required course.
- ACT 4493 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
Note: This course may not be substituted for any required course. Also see index for "Independent

Study and Research.” Consult Certified Public Accountant Examination requirements prior to enrolling in this course. Accounting majors must complete this course with a grade of C or better.

ACT 4494 Income Tax Accounting I (3)
 Analysis of the federal income tax laws and regulations for individual taxpayers. Primary emphasis is on the individual components of personal and business income and the allowable deductions. The taxation of gains and losses on property and capital-asset transactions will be introduced. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 2292.

ACT 4495 Income Tax Accounting II (3)
 Analysis of federal income tax laws and regulations for partnerships, corporations, estates and fiduciaries. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 4494.

ACT 4496 Managerial/Cost Accounting II (3)
 In depth analysis of advanced cost accounting issues from the viewpoint of management, including cost management systems, target costing, life cycle costing, and measures of performance, including the balanced scorecard. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3395.

ACT 4497 Auditing (3)
 Auditing theory as contained in official pronouncements. Emphasis will be placed on material required for the CPA exam as it relates to professional ethics, audit engagement, internal control, audit sampling, evidence gathering and auditors’ reports. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3392.

ACT 4498 Fraud Examination II (3)
 Auditing theory and procedures as applied to fraud prevention, detection and investigation. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 4485.

ACT 4499 Accounting Internship (1 to 3 credit hours per course per semester)
 Internship in local, regional or national firm. Requires junior or senior standing and individual approval for the internship program. See “Internship Program” for additional requirements. Accounting majors must complete this course with a grade of C or better.
Prerequisite: ACT 3392.

technologies to perform required career duties and succeed as professionals in the workforce. Technology enhances the learning of adults, improves their motivation, and engages them in various activities. It also increases accessibility to individualized learning, and improves communication with coworkers and supervisors. This course focuses on the ideas and skills to integrate technology efficiently into curriculum and its utilization for effective teaching.
Prerequisite: ADE 3301

ADE 3310 Teaching Adult Learners (3)
 This course features practical strategies and instructional techniques for teaching adult learners. Topics include characteristics of adult learners, adult learning/teaching styles, overcoming resistance to learning, promoting self-learning in adults, and dealing with diversity in the adult learning environment.
Prerequisite: ADE 3301

ADE 3320 Assessing Adult Learners (3)
 This course is designed to assist participants with the development of knowledge and skills that can be applied to successful student outcomes assessment. Specifically, this course is an introduction to various methods that measure students’ knowledge and skills. Emphasis is placed on constructing and validating various types of measurement instruments and performance assessments including their validity and reliability.
Prerequisite: ADE 3301

ADE 3346 Educational Psychology in Adult Learning (3)
 This course is a study of the distinctive characteristics of adult development and their interaction with the cognitive, social, and psychological characteristics of adult learning. Emphasis will be given to understanding the nature of adult learners and their learning processes, principles of motivation and effective facilitation geared toward adult learners, and social and cultural influences on adult learning.
Prerequisite: ADE 3301

ADE 4400 Classroom Management in Adult Learning (3)
 This course will provide an introduction to managing various instructional environments including how to create a safe learning environment, design classroom and laboratory procedures, and develop an effective classroom management plan. Instruction also includes how to implement organizational systems to manage work-based learning experiences, student records, learning experiences, supplies, equipment, tools, finances, and facilities.
Prerequisite: ADE 3301

ADE 4401 Problem Solving and Decision Making (3)
 This course explores the application of effective problem solving and decision making strategies in the workplace. It examines involvement of stakeholders in decision processes, models for decision making, decision trees, risk analysis, and issues associated with implementation of decisions.
Prerequisite: ADE 3301

ADE 4410 Professional Education Communication (Student Counseling) (3)
 This course is designed to develop communication skills required for effective occupational educators working with adults in a variety of postsecondary, workforce development, and military education settings. The course focuses on information and the communication process. Emphasis will be placed on verbal, non-verbal, interpersonal, and written communication. Special attention will be given to working with diverse populations.
Prerequisite: ADE 3301

ADULT EDUCATION (ADE) COURSES

ADE 3301 Education Leadership and Motivation in Adult Learning (3)
 In this course, you will learn how to create a shared vision for your team and effectively communicate it to your teammates. You will also learn how to set effective goals and expectations in a way that best enables your team to attain the shared vision. Finally, you will understand the most important needs and drivers of performance across cultures, and will learn to align rewards with desired behaviors so that your teammates are motivated to attain the team’s objectives. This course will help you diagnose and solve motivation problems so that you can bring out the best in your people.

ADE 3305 Teaching Adults with Technology (3)
 Instructional technology is becoming increasingly an important part of adult learner education. Adult learners need to utilize current and emerging

- ADE 4420 History and Development of the Workforce (3)**
This course is a study of the origins of adult career education and training in the United States. Students will learn about the pioneers in this field who built the theoretical concepts over time. Those concepts are examined through the lenses of:
- Time and changes in the workplace during the agrarian and craftsman period, early industrialization, the post industrialization period, to current service and technology industries;
 - The impact of world events, and the influence of government legislation; and
 - The influence of women, minorities, and special needs employees in the workplace.
- The course will provide the student a greater appreciation of the breadth and complexity of adult education by focusing on an area often overlooked—Career and Technical Education.
Prerequisite: ADE 3301

ADVERTISING COURSES (ADJ)

- ADJ 2220 Principles of Advertising (3)**
An introduction to the principles and background of advertising, advertising campaigns and the different types of advertising. Special emphasis is given to social, legal, planning and creative aspects.
- ADJ 3322 Advertising Copywriting (3)**
The principles of advertising psychology studied in relation to the techniques for writing effective copy; approximately half of the course is devoted to practice in writing effective advertisements.
Prerequisites: ADJ 2220 or PRJ 2230, JRN 1102 or PRJ 3375 or special permission from the director of the School of Journalism.
- ADJ 3350 Advertising Sales (3)**
Discussion and practical experience in servicing accounts and selling advertisements. Emphasis on building client relationships and delivering effective sales presentations.
Prerequisite: ADJ 2220.
- ADJ 4451 Advertising Media Planning (3)**
This course explores researching media options, developing a media plan, and learning how to implement the plan. It includes identifying target audiences, the media they use, the cost efficiency of the media, and determining the costs of the total plan.
Prerequisite: ADJ 2220

ANTHROPOLOGY COURSES (ANT)

- ANT 2200 Anthropology (3)**
An examination of human, physical and cultural development using evidence from archaeology, paleontology, genetics, ecology, cultural anthropology and linguistics with emphasis on the historical, structural and symbolic aspects of human culture.
This course is prerequisite for all 3300 and 4400 level courses in anthropology. This course does not count toward the 36-hour major.
- ANT 3305 Introduction to Archaeology (3)**
An examination of the methods and theory of traditional and contemporary approaches to archaeological research.
- ANT 3310 Cultural Anthropology (3)**
An anthropological examination of human cultural development and a survey of both contemporary and past human cultures. May be taken for sociology credit.

- ANT 3311 Physical Anthropology (3)**
An examination of human biological development from the beginning of mankind through the Pleistocene age using evidence from archaeology, paleontology, biology, genetics and osteology.
- ANT 3312 Field Techniques in Archaeology (3-6-9 hours)**
Instruction in survey and excavation methods and techniques used in the discipline of archaeology.
- ANT 3315 The Anthropology of Kinship and Social Structure (3-6)**
Students will be introduced to the basic concepts and major issues in kinship studies, including gender, marriage, social relationships, and descent from a cross-cultural perspective. The course will explore different theoretical approaches to understanding the importance of global kinship practices, variations in kinship practices and gender systems around the world, and the relevance of kinship systems today as new reproductive technologies challenge our traditional ideas on kinship.
- ANT 3320 Prehistory of North American Indians (3)**
An examination of the aboriginal cultures of North America prior to the period of European contact based upon archaeological evidence.
- ANT 3321 North American Indians Since Contact (3)**
An examination of aboriginal cultures of North America from the period of European exploration, colonization, and settlement to the present using archaeological, ethnographic, and ethnological studies.
- ANT 3324 Food and Culture (3)**
This course will explore the historical foundations of food production. Students will critically examine the current system of food production, and specifically how differential production and access to food have created disparities in health and nutrition. The course will also include an exploration of the Food Justice movement and how it is working to restructure and transform our current system of production.
- ANT 3328 Environmental Archaeology**
This course explores past environments and the methods and evidence used to reconstruct them. Emphasis is placed on the integration of geological, botanical, zoological, and archaeological data used to reconstruct Quaternary climates and environments. A number of issues central to and addressed by environmental archaeologists using plant, animal, and mineral data sets and working within the larger discipline of archaeological anthropology are considered throughout the course.
- ANT 3330 Historical Archaeology (3)**
An examination of the historical research methods and archaeological techniques used to investigate and interpret archaeological sites dating from the historic period.
- ANT 3333 Human Osteology (3)**
An intensive study of the human skeletal system covering the structure, function, growth, and development of human bone as well as methods for the identification and analysis of bone in archaeological and forensic contexts.
- ANT 3340 Language in Culture and Society (3)**
A sociological and anthropological examination of language from a descriptive, historical and social perspective.
- ANT 3360 Magic, Witchcraft and Religion (3)**
An anthropological examination of the role of religion and the supernatural among traditional peoples.
- ANT 3375 Research Methods in Anthropology (3)**
The purpose of this course is to provide a structured opportunity to review, learn, and apply quantitative

- and qualitative anthropological research methods. This course incorporates anthropological examples and theory to assist each student in developing a research question and a general research design report. This course covers a wide variety of methodologies applicable to all four subfields of anthropology (cultural, archaeological, linguistic, and biological)
Prerequisite: ENG 1102 or ENG 1104, ANT 2200
- ANT 3376 Anthropological Statistics (3)**
A detailed description of what anthropologists do with the information they gather. Inferential and descriptive statistics are discussed in terms of univariate and multivariate methods. Particular attention is paid to issues pertaining to anthropological data (e.g., small sample sizes, missing data, autocorrelation). This course also serves as an introduction to statistical software options frequently used in anthropology research.
Prerequisites: STAT 2210 or equivalent, ANT 2200
- ANT 3380 Anthropology Study Abroad (1-3)**
Supervised investigation of relevant topics in Anthropology through travel study abroad or within the interior of the United States.
- ANT 4410 High Civilizations of the Old World (3)**
An anthropological examination of the sociocultural systems that formed the foundations of pre-industrial high civilizations of the Old World and a survey of past cultures that achieved this degree of development.
- ANT 4411 High Civilizations of the New World (3)**
An anthropological examination of the socio-cultural systems that formed the foundations of pre-industrial high civilizations of the New World and a survey of past cultures that achieved this degree of development.
- ANT 4412 Advanced Laboratory Archaeology Techniques (3)**
This course involves specific archaeological training in a singular area of Archaeological practice. Training in specific areas will be limited to such areas: zooarchaeological analysis, paleoethnobotanical analysis, geo-spatial archaeological analysis, cultural resource management, ceramic or lithic analysis, ethnoarchaeology, experimental archaeology, archaeological synthesis, and curation.
Prerequisite: ANT 4460
- ANT 4413 Anthropology of Death and Burial (3)**
The goal of this course is to provide an anthropological perspective on mortuary studies derived from a study of the death experience. A strong emphasis will be placed on the theoretical foundations of mortuary data, drawn from cultural anthropology and ethnography.
- ANT 4415 Anthropological Perspectives on the Domestication of Plants and Animals (3)**
This course focuses on the consequential transition in the human past, specifically, that from hunting and gathering of wild plants and animal food resources to agriculture and pastoralism. The course will cover the emergence of cultivation, the adoption of plants foods, and the domestication of animals in key regions across the globe. The course will also discuss the most recent contributions from disciplines including archaeology, climatology, botany, zoology, genetics, and linguistics to these topics. Utilizing data and ideas from these various disciplines, the course will investigate the processes behind and the regional expressions of the development and spread of domestic plants and animals.
- ANT 4422 Principles in Biological Anthropology (3)**
This course examines human variation from an evolutionary perspective. We will explore human diversity in terms of genetics, and adaptation at both the individual and population level. The mechanisms and processes of microevolution will be considered, in particular how they influence the diversity that characterizes the human species.
Prerequisite: ANT 3311
- ANT 4435 Introduction to Forensic Anthropology (3)**
An introduction to forensic anthropology, the subspecialty of biological anthropology that focuses on human identification in medico-legal contexts. This course builds on the content from Human Osteology and covers the basic methodology for estimating sex, age, ancestry, stature, trauma, pathology, and time since death.
Prerequisite: ANT 3333
- ANT 4445 Aboriginal Peoples (3)**
This course will focus on the ethnography of aboriginal peoples. It will cover such areas of culture as kinship, political systems, social organization, religion, and the interaction between aboriginal people and non-aboriginal people.
- ANT 4450 Anthropology of Sex and Gender (3)**
This course will focus on gender as a primary organizing principle of society and explore how these categories get created, reproduced and transformed. Topics of discussion will include the social position of women and men in the family, changing social, economic, and political ideologies with respect to gender and the construction and reproduction of gender inequality from a global perspective.
- ANT 4455 Paleoanthropology (3)**
The course examines the origin and evolution of humans in biological terms, though some consideration is given to developments in material culture and cultural behavior. Emphasis is placed on the fundamentals of paleoanthropological research, evidence of human evolution, trends in human evolution, important fossil finds and sites, and phylogenetic relationships.
Prerequisite: ANT 3311
- ANT 4460 Archaeological Method and Theory (3)**
Exploration of the methods and techniques used in the curation and analysis of cultural materials recovered from archaeological investigations through the discussion of the history of archaeological thought from the eighteenth century (evolution, cultural history, and processualism) to contemporary theory (postprocessualism and feminism)
Prerequisites: ANT 2200, ANT 3305
- ANT 4470 Selected Topics in Anthropology (3)**
Anthropological examination of a designated topic of special and/or current interest and importance that is generally not covered in regularly offered courses in the department.
- ANT 4485 Archaeology Practicum (3 or 6)**
This course will expose students to the process of synthesis in the archaeological method. This process includes the incorporation of field and laboratory methods in archaeology towards accomplishing archaeological research projects.
- ANT 4489-90 Internship in Anthropology (3)**
Internship with a recognized, professional anthropology related agency in which the student is assigned specific tasks related to the field of anthropology.
Prerequisite: Anthropology Major, ANT 2200; junior/senior classification; 3.0 cumulative GPA, 3.5 major GPA; consultation with department Internship Coordinator.

- ANT 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.
Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."
- ANT 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Supervised study through field and laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: Junior or senior standing, with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."
- ANT 4497 Professional Seminar in Anthropology (3)**
In this course, the advanced anthropology student prepares for the transition to graduate school/career. Career and advanced degree options are explored and discussed. In addition to career exploration, students conduct a senior project in an area of interest consistent with their academic program.
Prerequisites: ANT 3305, ANT 3310, ANT 3311, ANT 3340, senior status, or permission of instructor.
- ANT 4498 Anthropological Theory (3)**
This course will focus on the early foundations of Anthropology and a survey of the major theorists in the discipline, emphasizing those who made critical contributions influencing the four subfields of Anthropology.
Prerequisite: ANT 3305, ANT 3310, ANT 3311, ANT 3340, ANT 3315, senior status, or permission of instructor.
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- ART AND DESIGN COURSES (ART)**
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- ART 1133 Visual Arts (3)**
Visual arts and their relationship to human needs and aspirations.
Note: Credit for this course may not be applied toward any program in art.
- ART 1134 Honors Visual Arts (3)**
Visual arts and their relationship to human needs and aspirations. Presentation of aesthetic, cultural and social issues related to art and its making.
Note: Credit for this course may not be applied toward any program in art.
- ART 1145 Foundations of Form and Space (3)**
Introduction to the principles, elements, and concepts of two-dimensional space.
- ART 1150 Foundations of Time and Space (3)**
Introduction to the principles, elements, and concepts of three- and four-dimensional space.
- ART 2201 Introductory Drawing (3-5)**
Introduction to drawing with emphasis on traditional rendering materials and techniques.
- ART 2202 2D Studio I (3-5)**
Fundamental concepts in printmaking. Basic techniques in producing black and white multiples in relief, intaglio, serigraphy and lithography.
Prerequisites: ART 1145, ART 2201.
- ART 2204 3D Studio I (3-5)**
Fundamental concepts in pottery and ceramics. Basic techniques in production and free form ceramics to include introduction to hand-building, wheel throwing, and glazing/firing techniques.
Prerequisites: ART 1150, ART 2201.
- ART 2205 3D Studio II (3-5)**
Fundamental concepts in sculpture. Emphasis on traditional subtractive and additive techniques in a variety of media.
Prerequisite: ART 1150 ART 2201.
- ART 2206 2D Studio II (3-5)**
Fundamental concepts in painting. Basic techniques in application using transparent and opaque painting media.
Prerequisites: ART 1145, ART 2201.
- ART 2208 Digital Tools (3)**
This course examines literacy and application of art and design industry-based hardware and software.
- ART 2210 Introduction to Digital Drawing (3)**
A fusion of analog and digital drawing focusing on basic introductory concepts. Technique and best practices are emphasized.
- ART 2215 Art and Design Forum (2)**
An introductory learning community established at the entry level for incoming Art and Design students. This non-media specific course will aid students in discovering their own creative voices while learning how to navigate life in the Department of Art and Design. Students will gain a fundamental understanding of conceptualization, ideation, creative problem solving and processes, critique strategies, and occupational opportunities.
- ART 2228 Photo Studio Darkroom (3-5)**
Introduction to the fundamentals photographic techniques in traditional black and white darkroom photography and contemporary digital photographic techniques and practices. Emphasis on darkroom printing, manual camera controls, compositional elements, digital technologies and photographic history.
Prerequisites: ART 1145, ART 2201 or ART 2210.
- ART 2230 Color and Technology (3)**
Introduction to the principles and science of color and color applications in both colorant and digital environments.
Prerequisites: ART 1145, ART 2201 or ART 2210.
- ART 2250 Survey of Art History I (3)**
This course examines the development of art from pre-history to the Gothic period. The sessions will focus on the various social and cultural factors that determine the uses and appearance of art at different times.
- ART 2251 Survey of Art History II (3)**
This course examines the development of art from the Renaissance to the Modern period. The sessions will focus on the various social and cultural factors that determine the uses and appearance of art at different times.
- ART 2255 History of Photography (3)**
An examination of the development of photography and its relation to the other visual arts. This course is designed to provide a brief introduction to the history of photography. It outlines major

- developments in photographic processes, concepts, and criticism; and it presents a selection of well-known photographic images from the 19th, 20th, and 21st centuries. The course will provide students with a basic knowledge of photographic history, theory, and criticism. It will examine how photography has both been influenced by and has also influenced other mediums. (Writing Intensive)
- ART 3301 Life Drawing (3-5)**
Drawing the human form with emphasis on rendering mood and expression while learning skeletal and muscular structure.
May be repeated for credit up to six hours.
Prerequisite: ART 2201.
- ART 3302 History of the Arts (3)**
An analysis of examples of art from diverse periods with an emphasis on trends and patterns and the interactions of art with various aspects of social, political, and intellectual developments.
- ART 3308 Graphic Design Principles & Practices (3)**
This course explores the principles of graphic design from concept development to final execution.
- ART 3310 Motion Graphics Principles & Practice (3)**
This course is an exploration of graphic design as it is applied to multimedia.
- ART 3315 User Interface Design (3)**
Formal and practical aspects of graphic design as applied to web development, Internet communication, marketing, and advertising.
- ART 3318 Conceptual Drawing (3-5)**
A course in the exploration of image making that expands drawing from direct observation to a more conceptual approach.
May be repeated for credit up to six hours.
Prerequisites: ART 1145, 2201.
- ART 3320 Ancient and Medieval Art (3)**
This course will focus on the art and culture of the ancient Greek and Roman Worlds, and consider how the artistic heritage of Europe during the Medieval Era follows upon and deviates from these earlier eras. An examination of the culture and intellectual traditions of these eras will be incorporated as well, with particular focus on how culture influences the artistic traditions discussed.
Prerequisite: ART 2250.
- ART 3321 Renaissance Art History (3)**
This course will explore the visual arts of the Renaissance from the early Renaissance through to Mannerism. Attention will be paid to the Renaissance in Italy, along with issues of patronage, the socio-political and economic context of the artists, and the cultural, intellectual and religious changes occurring at this time.
Prerequisite: ART 2251.
- ART 3322 Rococo to Revolution Art History (3)**
This course will examine the visual arts from the Rococo period through to Post- Impressionism. Along the way, we will confront the debates concerning style during the Neo-classical period, the effects of the Revolutionary era and the revolt into artistic individualism during the Romantic period.
Prerequisite: ART 2251.
- ART 3323 Modern and Contemporary Art History (3)**
This course provides a detailed study of the visual arts of Europe and America from 1900 to present day. Specific attention will be paid to the changing identity of the artist, dialogues and tensions between “high” art and mass culture, and the success and failure of Modernism.
Prerequisite: ART 2251.
- ART 3324 Concept and Process (3)**
This course is an exploration in content development, publishing, research and design for print and digital media.
Prerequisite: ART 3308 or permission of department chair.
- ART 3325 Typography (3)**
A study and application of history, design, letterforms, typeface hierarchy, and grids.
- ART 3326 Digital Illustration (3)**
Student will explore the concepts and techniques necessary to create illustrations for use in print, web, and multimedia applications. Various categories of illustration will be addressed (i.e. technical illustration, editorial illustration, charts, maps, icons, and others). Students will also learn of significant illustrators and their contributions to digital image making.
Prerequisites: ART 1145, ART 2201, and ART 2230.
- ART 3328 Digital Photo Studio (3-5)**
Intermediate classroom environment based around the exploration and fundamentals of digital color photographic processes. Techniques explored are artistic aspiration, color printing, theoretical research and exploration, digital photography manipulation and editing, studio lighting, photographic history and contemporary topics.
Prerequisite: ART 1145, 2201, 2210 or 2230.
- ART 3330 2D Studio III (3-5)**
Advanced concepts in two-dimensional media. Studio focus on specific painting, and mixed media techniques.
May be repeated for credit up to six hours.
Prerequisite: ART 2206.
- ART 3331 3D Studio III (3-5)**
Advanced concepts in three-dimensional media. Studio focus on specific additive and subtractive techniques in a variety of media.
May be repeated for credit up to six hours.
Prerequisite: ART 2205.
- ART 3340 Portfolio Design (1)**
Through this course, students will develop a printed, digital and interactive portfolio that expresses their innovation, mastery of skills and ability to research and complete art/design projects.
Prerequisite: Must have completed at least 21 credit hours of major.
- ART 3342 The Business of Art/Design (1)**
This course explores the business aspects of the Art and Design Industry and readies students for their transition to the field by providing relevant marketing, entrepreneurial, collaboration, and planning proficiencies.
Prerequisite: Must have completed at least 21 credit hours of their major.
- ART 3346 Educational and Psychology Assessment in Fine Arts (3)**
This course provides a broad foundation in all aspects of assessment as it is applied to the P-12 music and art classroom, from learning theory to practical application of assessment techniques, data management, critical thinking, progress reporting and portfolio building. Assessment task design in the artistic response modes is covered, and a series of assessments that can be implemented in the music/art classroom are developed.
- ART 3348 Intermediate Photo Studio (3-5)**
Intermediate photography, which emphasizes a greater knowledge of digital photographic tools and introduction to video exploration. Techniques and processes explored are photography theory and research, video creation and editing, advanced digital composing and manipulation, beginning portfolio work and studio art.

- Prerequisite: ART 3328.*
- ART 3350 Research and Criticism (3)**
This course is a seminar that addresses the study and methodologies of art as it has been interpreted in the modern and post-modern periods. Students must take the semester before taking ART 4499 Thesis Exhibition.
Prerequisite: ART 2250, ART 2251.
- ART 3355 Graphic Design History (3)**
Survey of the history of graphic design from prehistoric visual communications to contemporary global issues.
Prerequisites: ART 2250, ART 2251.
- ART 3360 Exhibition Techniques (1)**
Student will be introduced to a wide array of techniques for exhibiting and presenting their artwork. Emphasis will be placed on the best industry standards of presenting artwork to targeted audiences including but not limited to galleries, museums, artist representatives, collectors, clients, grant sources, and graduate schools.
Prerequisites: Must have completed at least 21 credit hours of their major.
- ART 3361 Integrating Art into the Curriculum (3)**
Critical and experiential investigation of approaches for integrating visual art into the elementary curriculum.
Prerequisite: EDU 3310, EDU 3303.
- ART 3375 Special Topics in Art/Design (3)**
Examination of selected topics in art and design not included in the established curriculum. Content may be of a historical, thematic, or technological nature.
May be repeated for credit up to six hours..
- ART 3380 Travel Study in Art/Photography (1-3)**
Supervised investigation of photography and other art media through travel abroad or within the interior of United States.
May be repeated for credit.
- ART 3390 Seminar in Art/Design (1-3 credit hours per course per semester)**
This seminar course is a periodic supplement to the existing curriculum, allowing for timely and relevant topics or issues that are not fully covered in existing courses. Topics can be practices or theories related to the making of art and design or the education of such.
- ART 4424 Design Studio (3)**
This course will provide the opportunity for students to work alongside of clients in a studio/lab atmosphere to produce design solutions for today's industry.
*May be repeated for credit up to six hours.
Prerequisite: ART 3315 and ART 3324 or permission from the department chair.*
- ART 4428 Advanced Photo Studio (3-5)**
Advanced photography classroom emphasizes the preparation and completion of a photographic portfolio and the function of photography online. Students will explore projects established in large format film processing, scanning and printing, advanced theoretical research, historical and contemporary photograph research, continued video creation and editing and alternative printing processes.
Prerequisite: ART 3328.
- ART 4430 2D Studio IV (3-5)**
Content and issues in two-dimensional media on the development of personal artistic expression. Advanced studio practices in printmaking and mixed media techniques with a focus.
*May be repeated for credit up to six hours.
Prerequisite: ART 2202.*
- ART 4431 3D Studio IV (3-5)**
Content and issues in three-dimensional media. Advanced studio practices in ceramics with a focus on the development of personal artistic expression.
*May be repeated for credit up to six hours.
Prerequisite: ART 2204.*
- ART 4432 Women in the History of Art (3)**
This course examines the role of gender in the production and reception of works of art. Analyzing a canon of great women artists, how patriarchal systems have affected the way art history has been written and the impact of the feminist movement on artistic production.
- ART 4435 Collaborative Studio (3)**
An integrative art studio experience joining students from each concentration area. Thematic, supervised exploration of a chosen medium. This course will facilitate the comprehensive assessment of student competencies in art portfolio review, core curriculum exam and/or the taking of a standardized art exam, a requirement of all art majors. Prerequisite: Must be taken upon completion of the twelve hours concentration or have approval of the department chair.
May be repeated for credit up to six hours.
- ART 4450 User Experience Design (3)**
A continuing study of "Design for the Internet". Through leveraging new trends and technologies students will explore development concepts such as usability, functionality, modality, and accessibility.
Prerequisite: ART 3315.
- ART 4472 Internship in Art Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP; Co-requisite: IED 4454 Internship Seminar for Interdisciplinary Education.
- ART 4481 Methods and Materials for the Art Teacher (3)**
Teaching methods, selection, organization, and use of art materials.
Prerequisite: ART 3361 and admission to TEP.
- ART 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- ART 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- ART 4496 Internship (3 or 6 credit hours)**
Experiential learning in the context of an art- or design-related profession. Must be approved by the department chair and cooperating host organization or business.
May be repeated for credit up to nine hours.
- ART 4498 Senior Thesis Preparation**
Senior thesis preparation is a course that must be taken the semester before ART 4499 Thesis Exhibition. This course will prepare senior art and design students for their thesis project by careful development of their ideas and concepts.
- ART 4499 Thesis Exhibition (3)**
This class provides students with the opportunity to produce a body of work related to their area of concentration along with a robust research paper.

All students must take this course in one of their last two semesters prior to graduation.
Prerequisite: ART 3350.

AIR FORCE ROTC/AEROSPACE COURSES (AS)

AS 1112 Heritage and Values (1)
 Is the first of two survey courses designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, and organization of the Air and Space Forces.
Co-requisite: AS L112 (Only required for those students pursuing a commission in the Air/Space Force).

AS L112 Leadership Laboratory (LLAB) (1)
 Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Co-requisite: AS 1112 (Only required for those students pursuing a commission in the Air/Space Force).

AS 1113 Heritage and Values II (1)
 Is the second of two survey courses designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, and organization of the Air and Space Forces.
Prerequisite: AS 1112 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS L113 (Only required for those students pursuing a commission in the Air/Space Force).

AS L113 Leadership Laboratory II (1)
 Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisite: AS L112 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 1113 (Only required for those students pursuing a commission in the Air/Space Force).

AS 2212 Team and Leadership Fundamentals I (1)
 Is the first of two courses designed to provide fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.
Prerequisite: AS 1113 or permission of department head.
Co-requisite: AS L212 (Only required for those students pursuing a commission in the Air/Space Force).

AS L212 Leadership Laboratory (LLAB) I (1)
 Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.

AS 2213

Prerequisite: AS L113 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 2212 (Only required for those students pursuing a commission in the Air/Space Force).

Team and Leadership Fundamentals II (1)

Is the second of two courses designed to provide a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.
Prerequisite: AS 2212 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS L213 (Only required for those students pursuing a commission in the Air/Space Force).

AS L213

Leadership Laboratory (LLAB) II (1)

Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisite: AS L212 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 2213 (Only required for those students pursuing a commission in the Air/Space Force).

AS 3312

Leading People and Effective Communication I (3)

Is the first of two courses designed to utilize student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.
Prerequisite: AS 2213 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS L312 (Only required for those students pursuing a commission in the Air/Space Force).

AS L312

Leadership Laboratory (LLAB) I (1)

Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisite: AS L213 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 3312 (Only required for those students pursuing a commission in the Air/Space Force).

AS 3313

Leading People and Effective Communication II (3)

Is the second of two courses designed to utilize student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communications skills, and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.
Prerequisite: AS 3312

Co-requisite: AS L313 (Only required for those students pursuing a commission in the Air/Space Force).

- AS L313 Leadership Laboratory (LLAB) II (1)**
Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisites: L312 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 3313 (Only required for those students pursuing a commission in the Air/Space Force).
- AS 4412 National Security and Preparation for Active Duty I (3)**
Is the first of two courses designed for college seniors and provides them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.
Prerequisite: AS 3313.
Co-requisite: AS L412 (Only required for those students pursuing a commission in the Air/Space Force).
- AS L412 Leadership Laboratory (LLAB) I (1)**
Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisites: AS L313 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 4412 (Only required for those students pursuing a commission in the Air/Space Force).
- AS 4413 National Security and Preparation for Active Duty II (3)**
Is the second of two courses designed for college seniors and provides them the foundation to understand their role as military officers and how they are directly tied to our National Security Strategy. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.
Prerequisite: AS 4412.
Co-requisite: AS L413 (Only required for those students pursuing a commission in the Air/Space Force).
- AS L413 Leadership Laboratory (LLAB) II (1)**
Is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Department of Air Force second lieutenants and complement the AFROTC academic program. It is student planned, organized, and executed practicum conducted under the supervision of the Detachment Commander and Operations Flight Commander.
Prerequisites: AS L412 (Only required for those students pursuing a commission in the Air/Space Force).
Co-requisite: AS 4413 (Only required for those students pursuing a commission in the Air/Space Force).

AMERICAN SIGN LANGUAGE COURSES (ASL)

- ASL 1141 American Sign Language I (3)**
Initial course in the four-course sign language developmental sequence which exposes students to American Sign Language at a Survival Level and will increase their knowledge of Deaf Culture. The course is designed for students who have had no previous knowledge of sign language.
- ASL 1142 American Sign Language II (3)**
The second course in the ASL sequence in which students continue to develop ASL proficiencies in lexicon, sign production, use of sentence types, and grammatical features such as use of classifiers, use of space to compare and contrast, mouth morphemes, and locatives. Outside interaction with the deaf community is required.
Prerequisite: ASL 1141 with a grade of "C" or better or departmental permission based on approved fluency assessment.
- ASL 1160 Visual/Gestural Communication (2)**
An overview of visual and gestural communication working toward the goal of being able to express and perceive non-linguistic information about everyday objects, family structure, employment and more complex concepts such as rights and responsibilities.
Prerequisites: ASL 1141 with a grade of "C" or better.
- ASL 1170 ASL Semantics and Structure (2)**
An advanced exploration of American Sign Language morphology, semantics and vocabulary expansion. Students also explore various syntactic structures in ASL.
Prerequisites: ASL 1141 with a grade of "C" or better.
- ASL 2230 ASL Classifiers and Depiction (2)**
This course provides theory and practice using the complex ASL morphology known as Classifiers, which are commonly used for descriptions of settings, participants and actions
Prerequisite: ASL 2241 with a grade of "C" or better
- ASL 2241 American Sign Language III (3)**
This course builds on skills and knowledge acquired in ASL I and II and focuses on building narrative skills. Students move from an informal to more formal style of signing. Interacting with the deaf community is a required activity. Students should be able to demonstrate intermediate to intermediate plus level conversational skills.
Prerequisite: ASL 1142 with a grade of "C" or departmental permission based on approved fluency assessment.
- ASL 2242 American Sign Language IV (3)**
This course builds on the previous ASL courses by increasing expressive and receptive skills with exposure to a wide variety of signing styles. Students will begin text analysis, be introduced to deaf literature, story-telling and signed poetry.
Prerequisite: ASL 2241 with a grade of "C" or better or departmental permission based on approved fluency assessment.
- ASL 2250 Advanced American Sign Language (3)**
This course provides students with opportunities to expand expressive and receptive use of ASL, including a variety of special topics at an advanced level. Special emphasis is on increasing spatial use, ASL fluency and nonmanual behaviors. Students are given opportunities to increase expressive and receptive skills through activities and class discussions, including a variety of special topics at an advanced level. Special emphasis is on understanding the importance of spatialization,

nonmanual grammar and morphology, and discourse features of ASL such as register and academic language use.
Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, or ASL 2242 with a grade of C or better, or permission of ITP Academic Advisor.

ASL 2252 American Sign Language Fingerspelling (3)
 This course is taught using American Sign Language. The course will introduce the students to the American manual alphabet of fingerspelling and its use within American Sign Language. The students will be given opportunities to demonstrate increased ability to accurately produce and comprehend ASL number systems and fingerspelling uses. Extensive drills and practice in both receptive and expressive use will be implemented.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, or ASL 2242 with a grade of C or better, or permission of ITP Academic Advisor.

ASL 3310 Deaf Culture and Diverse Populations
 An exploration of linguistic, social, and ethnic factors that influence attitudes and beliefs among various segments of both deaf and non-deaf communities. Attention will be paid to “deaf plus” populations that simultaneously identify as both deaf and some other socio-cultural identity. Geographical, generational, ethnic, and gender differences are explored.
Prerequisites: ITP 2200 and ASL 2242 with grades of “C” or better.

ASTRONOMY COURSES (ASTR)

ASTR 3301 Extragalactic Astronomy (3)
 This course is an in-depth exploration of our current understanding of the Milky Way, external galaxies (morphology, observational measurements, evolution, composition, etc.), large-scale structure of the Universe (based on observations and simulations, including evidence for dark matter), active galactic nuclei (supermassive black holes, both active and inactive), and cosmological theories (big bang, cosmic microwave background, modified gravity, etc.).
Prerequisites: MTH 1125, PHY 2262, PHY L262.

ASTR 4401 Astronomy Capstone (1-3)
 This course is an in-depth exploration of astrophysical research topics and methods. Specific topics will vary, but all will include observations. This can involve completing a proposal for competitive observing time on a research-grade telescope and/or analysis of data from a research observatory. Students will also conduct scientific writing of their results in addition to familiarization with the relevant literature to their research topic.
Prerequisites: MTH 1125, PHY 2262, PHY L262.

BIOLOGY COURSES (BIO)

BIO 1100 Principles of Biology (3)
 Biological principles including the evolution of life, cell structure and function, human biology, cell reproduction, heredity, and ecology. Credit for this non-majors course cannot be applied toward any curriculum in biology.
Co-requisite: BIO L100.

BIO L100 Principles of Biology Lab (1-2)
 Labs include coverage of scientific methods, measurements, microscopy, cell structure, human biology, cell reproduction, heredity, and ecology. Credit for this non-majors course cannot be applied toward any curriculum in biology.
Co-requisite: BIO 1100.

BIO 1101 Organismal Biology (3)
 Biological concepts and life processes of protists, fungi, plants, and animals.
Prerequisites: BIO 1100/L100.
Co-requisite: BIO L101.

BIO L101 Organismal Biology Lab (1-2)
 Survey of organisms from selected phyla, including anatomy, phylogeny, and life histories.
Prerequisites: BIO 1100/L100.
Co-requisite: BIO 1101.

BIO 1120 Survey of Environmental Sciences (3)
 This course is an overview of the Earth’s abiotic and biotic systems with an emphasis on how human activity influences these systems. Included in this course will be lectures on ecology, environmental health, natural resources, energy, pollution, and environmental monitoring. If a student drops the lab (BIO L120), then the student MUST also drop the lecture (BIO 1120).
Co-requisite: BIO L120.

BIO L120 Survey of Environmental Sciences Lab (1)
 This course includes Lab/Field-oriented experiences designed to enhance understanding of environmental concepts and issues. If a student drops the lecture (BIO 1120), then the student MUST also drop the lab (BIO L120).
Co-requisite: BIO 1120.

BIO 2205 Career Opportunities in Medicine and Allied Health Professions (1)
 An introduction to medicine and allied health professions, including academic requirements, job opportunities, and future trends. Professionals from different fields will discuss their specialties to provide students with realistic perspectives.

BIO 2220 Principles of Cell Biology (3)
 Introduction to cell structure and function with emphasis on organelle structure, metabolism, cell cycle, genetics, and gene function.
Prerequisites: BIO 1100/L100, CHM 1142/L142.
Credit will not be given toward major/program if taken at same time or after BIO 3320 and BIO 4482.

BIO L220 Principles of Cell Biology Lab (1)
 Laboratory studies of cell biology with an emphasis on cell structure, function, experimental techniques, and data collection and analyses.
Prerequisite: BIO 1100/L100.
Credit will not be given toward major/program if taken at same time or after BIO L320 and BIO L482.

BIO 2229 General Ecology (3)
 The relationships of living organisms to one another and to the nonliving environment. Basic ecological concepts with the emphasis on bioenergetics, limiting factors, adaptation to a changing environment, the niche, ecological pyramids, and succession.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO L229.

BIO L229 General Ecology Lab (1-3)
 Introduction to the terminology, procedures and equipment for sampling biotic and abiotic components of ecosystems, the functional and dynamic features of ecosystems, and biotic interactions.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO 2229.

BIO 2272 Non-Majors Microbiology (3)
 To introduce students to basic concepts of microbiology; including anatomy and growth of bacteria, microbial metabolism, diseases caused by them, and interrelationships of micro-organisms with the environment/host. The emphasis of the course will be on medical microbiology, disease control and public health.

- Corequisites: BIO L372*
- BIO 3307 Invertebrate Zoology (3)**
Major and minor phyla of invertebrates with emphasis on anatomy, classification, life histories, and phylogeny.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO L307.
- BIO L307 Invertebrate Zoology Lab (1-3)**
Anatomy, classification, and life histories of invertebrates.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO 3307.
- BIO 3315 Introduction to Biostatistics (3)**
An important part of the scientific process consists in extracting information from the world by gathering and analyzing data. This course is an introduction to experimental design, data handling skills, and statistics, the three cornerstones of what could be called the “data science triangle.” In addition to the introduction of fundamental concepts such as probability, P-value and confidence interval, a selection of commonly used parametric and non-parametric statistical tests is presented.
Prerequisites: BIO 1101/ BIO L101, and MTH 1112 or higher
- BIO 3320 Genetics (3)**
Principles of heredity, from basic Mendelian concepts through molecular genetics.
Prerequisites: BIO 2220/L220 and CHM 1143/L143.
- BIO L320 Genetics Lab (1)**
Basic laboratory techniques in genetics, including the genetics of common laboratory organisms.
Prerequisites: BIO 2220/L220 and CHM 1143/L143.
- BIO 3325 Plant Form and Function (3)**
The development, structure, and function of plant tissues and organs. Primary emphasis on anatomical, morphological, and physiological features of angiosperms.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO L325.
- BIO L325 Plant Form and Function Lab (1-3)**
The development, structure, and function of plant tissues and organs, with the primary emphasis on structures.
Prerequisites: BIO 1101/L101.
Co-requisite: BIO 3325.
- BIO 3328 Environmental Pollution and Control (3)**
Sources, effects, and methods of control for air, water, land, and noise pollution.
Prerequisites: BIO 2229/L229, CHM 1143/L143.
Co-requisite: BIO L328.
- BIO L328 Environmental Pollution and Control Lab (1-3)**
Field and laboratory techniques for air, water, land, and noise pollution.
Prerequisites: BIO 2229/L229, CHM 1143/L143.
Co-requisite: BIO 3328.
- BIO 3335 Biogeography (4)**
Discussion of historical, ecological, and anthropic factors affecting the worldwide distribution and abundance of biological species, communities and ecosystems. Combination of lectures by instructor, presentation by students and discussion of articles from the primary literature, ecological modelling, and field trips on the biogeography of plants and birds of Alabama.
Prerequisites: BIO 1100 and BIO L100 or permission of the instructor
- BIO 3340 Evolution (3)**
Evolution is the fundamental unifying theory in biology. The course will introduce the major principles of evolutionary biology such as evolutionary genetics, adaption and natural selection, biological diversity, paleobiology and macroevolution.
Prerequisites: Junior standing or permission of instructor.
- BIO L342 Biotechniques (2)**
Laboratory studies of cell biology, genetics and molecular biology with an emphasis on instrumentation and lab techniques. Labs will include the investigation of cell anatomy/function, genetics and molecular biology
Prerequisites: BIO 22200
- BIO 3347 Human Anatomy and Physiology I (3)**
Anatomical terminology, a survey of cell types and tissues, and detailed coverage of the integumentary, skeletal, muscular, and nervous systems of humans.
Prerequisites: BIO 1100/L100, BIO 2220/ L220, CHM 1142/L142.
Co-requisite: BIO L347.
- BIO L347 Human Anatomy and Physiology I Lab (1-3)**
Anatomical terminology, a survey of cell types and tissues, and detailed coverage of the integumentary, skeletal, muscular, and nervous systems of humans.
Prerequisites: BIO 1100/L100, BIO 2220/L220, CHM 1142/L142.
Co-requisite: BIO 3347.
- BIO 3348 Human Anatomy and Physiology II (3)**
The endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems of humans.
Prerequisites: a grade of C or better in BIO 3347/ L347.
Co-requisite: BIO L348.
- BIO L348 Human Anatomy and Physiology II Lab (1-3)**
The endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems of humans.
Prerequisites: a grade of C or better in BIO 3347/L347.
Co-requisite: BIO 3348.
- BIO 3372 Microbiology (3)**
Fundamentals of microbiology including historical perspectives, anatomy and growth of bacteria, microbial metabolism, diseases caused by them, and interrelationships of microorganisms with the environment.
Prerequisites: BIO 1100/L100, BIO 2220/L220 and CHM 1142/L142 .
Co-requisite: BIO L372.
- BIO L372 Microbiology Lab (1-3)**
Fundamentals of microscopy, sterile techniques, staining procedures, isolation techniques, identification of unknowns, and biochemical tests.
Prerequisites: BIO 1100/L100, BIO 2220/L220, CHM 1142/L142.
Co-requisite: BIO 3372.
- BIO 3382 Immunology (3)**
The cellular and humoral system involved in the host response and immunity of organisms to foreign substances. Mechanisms of humoral immunity, cellular immunity, and hypersensitivities.
Prerequisites: BIO 3372/L372, CHM 3342/342.
Co-requisite: BIO L382.
- BIO L382 Immunology Lab (1-3)**
Analysis of immunological techniques used in research and clinical settings.
Prerequisites: BIO 3372/L372, CHM 3342/L342.
Co-requisite: BIO 3382.

- BIO 3386 Hematology (3)**
The study of blood cells and blood-forming organs under normal and diseased states.
Prerequisites: BIO 3320/L320, 3372/L372, CHM 3342/L342.
Co-requisite: BIO L386.
- BIO L386 Hematology Lab (1-3)**
Cytological and instrumental analyses of blood cells and blood forming organs. Hematological analysis of normal and diseased states. Introduction to blood-banking procedures.
Prerequisites: BIO 3320/L320, 3372/L372, CHM 3342/L342.
Co-requisite: BIO 3386.
- BIO 4405 Entomology (4)**
Orders of insects with the emphasis on morphology, taxonomy, and life cycles.
Prerequisites: BIO 1101/L101.
- BIO 4406 Dendrology (4)**
Dendrology is a field and laboratory investigation of ecologically and commercially important species of tress, shrubs, and woody vines in the United States with a particular focus on native and naturalized taxa in the Southeast. The roles of the arborescent species in shaping the natural communities and ecoregions of Alabama will be emphasized.
Prerequisites: BIO 2229/L229 or permission of instructor.
- BIO 4407 Advanced Cell Biology (3)**
Cell structure and function with the emphasis on biochemical and molecular mechanisms. Topics include cell division, movement, differentiation, and recognition.
Prerequisites: BIO 3320/L320, BIO 3372/L372, CHM 3343/L343
Co-requisite: BIO L407
- BIO L407 Advanced Cell Biology Lab (1)**
Experimental approaches for studying cells at the biochemical and molecular levels.
Co-requisite: BIO 4407
- BIO 4413 Limnology (3)**
The physical, chemical, geological, and biological aspects of freshwater ecosystems as influenced by activities in surrounding watersheds.
Prerequisites: BIO 2229/L229, CHM 1143/L143.
Co-requisite: BIO L413.
- BIO L413 Limnology Lab (1-3)**
Field and laboratory exercises in lake and stream science, including instrumentation, measurement, sampling, and analysis.
Prerequisites: BIO 2229/L229, CHM 1143/L143.
Co-requisite: BIO 4413.
- BIO 4414 Food Microbiology (3)**
This course focuses on topics in microbial metabolism, food spoilage, food preservation techniques, and foodborne pathogens and their control. Some molecular techniques will be introduced.
Prerequisite: BIO 3372/L372.
Co-requisite: BIO L414.
- BIO L414 Food Microbiology Lab (1)**
This lab focuses on advanced microbiological laboratory techniques including enumeration and analysis of bacteria in food, water, and dairy products.
Prerequisites: BIO 3372/L372.
Co-requisite: BIO 4414.
- BIO 4416 Microbial Ecology (3)**
A study of the diversity and ecology of microbial populations in ecosystems, with the emphasis on the roles they play in biogeochemical cycles, their contributions to metabolic diversity, their interactions with animals and plants, their niches and bioremediation.
Prerequisites: BIO 3372/L372, CHM 3342/L342.
Co-requisite: BIO L416.
- BIO L416 Microbial Ecology Lab (1-3)**
A study of the diversity and ecology of microbial populations in ecosystems, with the emphasis on the roles they play in biogeochemical cycles, their contributions to metabolic diversity, their interactions with animals and plants, their niches and bioremediation.
Prerequisites: BIO 3372/L372, CHM 3342/L342.
Co-requisite: BIO 4416.
- BIO 4418 Food Laws and Regulations (3)**
Introduction to federal, state and local laws pertaining to food safety and sanitation, proper food preservation and labeling, environmental and occupational regulations, Federal Trade Commission regulations, Kosher and Halal food laws, and topics in biotechnology.
Prerequisite: BIO 3372/L372.
Co-requisite: BIO 4414/L414.
- BIO 4420 Field Vertebrate Zoology (4-7)**
The basics of vertebrate identification, with emphasis on phylogeny, anatomy, morphology, life histories, habitats, distributions, and conservation.
Prerequisites: BIO 1101/L101, CHM 1143/L143.
- BIO 4421 Population Ecology (3)**
Animal and plant populations, food supply, competition, disease, fecundity, distribution, and other environmental factors. Management of endangered species and protected ecosystems are included.
Prerequisites: BIO 2229/L229, CHM 1143/L143, STAT 2210.
Co-requisite: BIO L421.
- BIO L421 Population Ecology Lab (1-3)**
Field exercises in identifying ecological problems, formulating and testing hypotheses, and evaluating data using standard statistical methods.
Prerequisites: BIO 2229/L229, CHM 1143/L143, STAT 2210.
Co-requisite: BIO 4421.
- BIO 4422 Introduction to Conservation Biology (3)**
Introduction to the principles, practices, and philosophy of measuring, maintain, and enhancing biological diversity. Topics covered will include patters of biodiversity and extinction, causes of extinction and population declines, techniques used to restore populations, landscape level conservation planning, and the role of conservation in protecting ecosystem services.
Prerequisites: BIO 2229/L229, BIO 3320/L320 or equivalent undergraduate courses.
- BIO 4423 Neurobiology (4)**
This undergraduate course is a comprehensive study of the biology of the human nervous system. This course introduces the anatomy and physiology of the central and peripheral divisions of the nervous system. Topics include: neuronal function, synaptic transmission, sensory processing, movement, and clinical disorders of the nervous system.
Prerequisites: BIO 3348/L348, BIO 3372/L372
- BIO 4425 Field Botany (4-7)**
Survey of vascular plants from different habitats in southeast Alabama. Principles of plant taxonomy, including history and systems of classification and nomenclature, the use of dichotomous keys, and general herbarium techniques. Emphasis is placed on plant identification and habitat types.
Prerequisites: BIO 2229/L229.

- BIO 4431 Human Genomics and Bioinformatics (3)**
The course will introduce the students to the field of genomics, how genome sequence data is obtained and analyzed, what can be learned from an individual's genome, how mining the genome can uncover the basis of disease susceptibility and treatment of many human diseases. The course will introduce students to a variety of NCBI- and web-based computational tools for solving common problems in biological research and address cutting-edge research in epigenetics, pharmacogenomics, genetic testing, genome editing, and microbiome.
Prerequisites: BIO 3320.
- BIO 4437 Epidemiology (3)**
The course is aimed to provide knowledge about the main concepts of epidemiology, ethics in epidemiological research, the epidemiological definitions of association and frequency, the measurements of disease frequency, mortality data, and health impacts, descriptive and analytical studies, surveillance and prevention, outbreak investigations, the aspects of air and water pollution, the risk assessment and precautionary principle the basics of radiation biology and the growing importance of ecological studies and environmental epidemiology in public health.
Prerequisite: BIO 3372/L372
- BIO 4438 Advanced Biostatistics (3)**
This course aims at introducing a range of powerful statistical methods applicable to many research problems in Biology and indispensable to the toolbox of researchers, including generalized linear models, linear mixed-effect models, and model selection. In addition, the course will develop the student's ability to manipulate, analyze, and visualize real-world complex data sets using the statistical software R.
Prerequisites: Bio 3315 or a demonstrable solid knowledge of basic statistics and at least some basic knowledge of the statistical software R.
- BIO 4440 Plants of Social Significance (3)**
Plants which affected or altered history with emphasis on those which are the source for food, medical, and cultural drugs, beverage production, and poisonous plants.
- BIO 4447 Ornithology (4)**
Ecology, evolution, and conservation of birds. Topics include origin and diversification of birds, seasonal migrations, bird communities, and the consequences of global change for bird diversity. Labs are integrated and include field trips for the observation and identification of birds.
Prerequisites: BIO 1101/L101, 2229/L229, or permission of the instructor.
- BIO L447 Ornithology Lab (1-3)**
Diversity, classification, and field identification of birds (birdwatching).
Prerequisites: BIO 1101/L101, 2229/L229. Co-requisite: BIO 4447.
- BIO 4449 Biotechnology (3)**
Advanced studies in genetics with emphasis on cytogenetics, microbial genetics, and molecular genetics.
*Prerequisites: BIO 3320/L320, BIO 3372/L372, CHM 3343/L343
Corequisite: BIO L449*
- BIO L449 Biotechnology Lab (1)**
Methods and procedures used in the study cytogenetics, microbial genetics, and molecular genetics.
Prerequisites: BIO 3320/L320, BIO 3372/L372, CHM 3343/L343
- Corequisite: BIO 4449*
- BIO 4451 Toxicology (3)**
Principles related to the adverse effects of chemicals on living organisms.
Prerequisites: CHM 3342/L342, and BIO 3348/L348.
- BIO L451 Toxicology Lab (1-3)**
Assessment of the toxicity of chemical agents following standard protocols.
Prerequisites: CHM 3342/L342 and BIO 3348/L348.
- BIO 4453 Biogeography (3)**
This course provides a general review of the historical, ecological, and anthropic factors (such as plate tectonics, glacial-interglacial cycles, soil, climate, topography, biotic interactions, and climate change) affecting the geographic distribution and abundance of animals and plants, with an emphasis on mammals, birds, and their habitats. The course includes lectures by the instructor and discussion of articles from the primary literature.
*Prerequisites: BIO 2229/L229 or permission of the instructor.
Co-requisite: BIO 4454.*
- BIO 4454 Biogeography Field Study (1)**
Biogeography Field Study is an introduction to the distribution of flora and fauna across the ecoregions of Alabama, the fifth most biodiverse state in America, gained through immersion in selected natural areas. Discussions and student presentations focus on natural community and species assemblages with an emphasis on adaptations of flora and fauna to different environments.
*Prerequisites: BIO 2229/L229 or permission of the instructor.
Co-requisite: BIO 4453.*
- BIO 4455 Clinical Pathophysiology (3)**
An objective-oriented, problem-solving introduction to general disease processes including mechanisms of health and disease, disorders of organ systems, and developmental disorders.
*Prerequisites: CHM 3352/L352, BIO 3348/L348, BIO 3372/L372.
Co-requisite: BIO L455.*
- BIO L455 Clinical Pathophysiology Lab (1)**
This course addresses normal and abnormal macroscopic and microscopic structures, provides students with the opportunity for detailed study of various aspects of pathology, understanding of basic specimen collection, labeling, handling protocols practical, and theoretical basis for laboratory test selection and interpretation.
*Prerequisites: CHM 3352/L352, BIO 3348/L348, BIO 3372/L372.
Co-requisite: BIO 4455.*
- BIO 4456 Virology (3)**
This course is aimed to provide knowledge about viruses and their both harmful and potentially beneficial properties for human health, as well as viral diseases of veterinary and agricultural importance. Students will study classification and nomenclature of viruses, their structure, virus structure, virus-cell interaction, virus replication cycles; attachment and entry of viruses into cells, assembly and exit of virions from cells. Students will learn about viruses that are associated with enteric and respiratory diseases, nerve system disease, sexually transmitted diseases, cancers and blood malignancies, zoonoses and emerging human viral infections as well as viral diseases of veterinary and agricultural importance.
Prerequisite: BIO 4482/L482 or taking simultaneously in the semester.

- BIO 4460 Critical Issues in Environmental Management (3)**
An examination of the scientific social economic and political factors that contribute to environment controversies, along with approaches for resolving disputes.
Prerequisites: BIO 2229 and BIO L229
- BIO 4465 Occupational Safety and Health (3)**
A study of practical information occupational safety and health technology, management, and regulatory compliance issues and covering crucial topics like an introduction to industrial hygiene; organizing, directing, and evaluating occupational safety programs; and safety-related laws, regulations, and recordkeeping.
Prerequisites: BIO 1100 and SCI 2233.
- BIO 4471 Parasitology (3)**
Taxonomy, structure, life histories, distribution, pathogenesis, and control of parasitic protozoa, helminths, and arthropods, with the emphasis on those of medical importance.
Prerequisites: Any 3000-level biology lecture and lab.
Co-requisite: BIO L471.
- BIO L471 Parasitology Lab (1-3)**
Laboratory study of parasitic protozoa, helminths, and arthropods, with the emphasis on those of medical importance.
Prerequisites: Any 3000 level biology lecture and lab.
Co-requisite: BIO 4471.
- BIO 4474 Internship in Biology Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454 Internship Seminar for Secondary Education.
- BIO 4476 Special Topics in Biology (1 to 4 credit hours per course per semester)**
Specialized topics not generally included in course offerings.
Prerequisite: Permission of instructor.
- BIO 4479 Environmental Assessment (3)**
An examination of theory and practices required in performing stream environmental assessment as currently practiced by state and federal agencies in their attempt to preserve biological integrity. Sustainable management of natural resources and a systems approach to environmental problem solving will be emphasized. Topics covered include water quality, habitat assessment, indicator species used in ecological inventory with a concentration on macro invertebrate and fish assemblages, and the index of biological integrity.
Prerequisites: BIO 1101/L101 and BIO 2229/L229.
Co-requisite: BIO L479.
- BIO L479 Environmental Assessment Lab (1-3)**
Laboratory instruction and hands-on field training regarding stream environmental assessment as currently practiced by state agencies in their attempt to preserve biological integrity. Topics covered include measurement of water quality, habitat, and practice sampling techniques, with a concentration on fish and macro invertebrate assemblages. In addition, students will learn the use of the index of biological integrity using their own collections of fish assemblages.
Prerequisites: BIO 1101/L101 and BIO 2229/L229.
Co-requisite: BIO 4479.
- BIO 4480 Histology (3)**
Microscopic anatomy and function of cell types and tissues of mammalian organs.
Prerequisites: BIO 1101/L101, BIO 3347/L347, BIO 3348/L348.
Co-requisite: BIO L480.
- BIO L480 Histology Lab (1-3)**
Microscopic anatomy of cell types and tissues of mammalian organs.
Prerequisites: BIO 1101/L101, BIO 3347/L347, BIO 3348/L348.
Co-requisite: BIO 4480.
- BIO 4481 Methods and Materials for the Secondary Teacher (3)**
A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of biology/science materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.
- BIO 4482 Molecular Biology (3)**
Fundamental principles of chromosomal organization and gene expression, with emphasis on the structure and function of nucleic acids and proteins.
Prerequisites: BIO 3320, 3372/L372.
Co-requisite: BIO L482.
- BIO L482 Molecular Biology Lab (1)**
Experimental approaches in molecular analyses of nucleic acids and proteins, with the emphasis placed on common techniques utilized in clinical and research settings.
Prerequisites: BIO 3320, 3372/L372.
Co-requisite: BIO 4482.
- BIO 4484 Senior Seminar in Biological & Environmental Sciences (1)**
The senior seminar course integrates knowledge, skills, and concepts acquired in departmental courses. The course is designed to help seniors to 1) prepare for the transition from college to career through a field-related project, and 2) complete a program assessment.
Pre-requisite: senior standing.
- BIO 4485 Principles and Methods for the Laboratory Assistant (1-2)**
This course will provide each student with significant "hands on" experiences in laboratory preparation and laboratory safety. Students will work under the direct mentorship and supervision of the course instructor and will be trained in preparation techniques and organization of laboratory exercises in the biological sciences. (*Students seeking one (1) semester hour credit will be required to assist in one laboratory course. Students seeking two (2) semester hours credit will be required to assist in two laboratory courses or laboratory courses with multiple sections.*)
Prerequisite: Good standing as a student in the department, advisor/departmental approval, interview.
- BIO 4488/89/90 Internship in Biological or Environmental Science (1 to 3 credit hours per course per semester)**
Supervised work experience in the biotechnology industry, medical field, a governmental agency, business or industry, public service organization,

food production or food service industry, or other working environment in which a student will learn and apply pertinent professional skills.
Prerequisites: Approval of the student's academic adviser and department chair. Internship may only be taken for a maximum of six (6) semester hours.

BIO 4491-92 Guided Independent Research (1 to 3) credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

BIO 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

BUSINESS COURSES (BUS)

- BUS 1101 Introduction to Business (3)**
 Topics covered include management, the free enterprise system, accounting, finance, marketing, economics, international business and other business concepts and terminology. This course may not be taken for credit by business majors.
- BUS 1110 Orientation to Sorrell College of Business (1)**
 This course introduces students to the Sorrell College of Business by providing overviews of its degree programs, the GEEKS program, technology utilized in the College of Business, and other resources to ensure success throughout a student's time in the college.
- BUS 1120 The Global Challenge (3)**
 The Global Challenge will help prepare superior students for thinking globally. This course is as much about how to study and think about global problems and relationships as it is a course about specific global issues. Superior Students will be required to participate in a service learning project during the semester. There will be several options available to students to travel or work locally on international projects.
- BUS 1121 Honors the Global Challenge (3)**
 The Global Challenge will help prepare superior students for thinking globally. This course is as much about how to study and think about global problems and relationships as it is a course about specific global issues. Superior Students will be required to participate in a service learning project during the semester. There will be several options available to students to travel or work locally on international projects.
Prerequisites: SCOB Global Scholar and permission of the associate dean.
- BUS 2220 Business Writing (1)**
 Analysis and composition of business and personal communications including mechanics and content of letters and memoranda. In this course, students will learn techniques for clarifying purpose, understanding readers, and organizing ideas.
Prerequisites: ENG 1102 or 1104 and BUS 1110
- BUS 3310 Intermediate Excel (1)**
 A computer application course in which business students use common business spreadsheet software to design and implement solutions to common business problems and issues.
Prerequisite: Lower-level core.
- BUS 3330 Professional Development (1)**
 This course is designed to provide practical career development skills, build meaningful relationships and provide the student with instruction on general principles of oral communication in classroom and other professional situations, organization of information, and different types of oral presentations. Students will learn how to brand themselves using social media; acquire

communication, social influence, and genuine networking skills; and develop an understanding of how to succeed in any workplace.
Prerequisite: BUS 2220

- BUS 3382 Business Communication (3)**
 Analysis and composition of business and personal communications including mechanics and content of letters and memoranda.
Prerequisite: ENG 1102 or 1104 and Lower-Level Business Core Classes.
- BUS 4425 Special Topics in Business (3)**
 Special topics in areas offered by the Sorrell College of Business. Prior credit and topic approval by the Associate Dean of Sorrell College of Business required.
Prerequisite: Lower-level core.
- BUS 4450 Global Leadership Experience (3)**
 Global Leadership Experience is a course developed to help improve the understanding of global citizenship and provide an opportunity to use leadership skills to create a transformative experience for superior students. This class allows students to interact with and learn about new cultures. A ten-day trip which is the integral experiential learning part of this class.
Prerequisite: Lower level core, junior standing, completion of at least 12 hours of the business core.
- BUS 4451 Honors Global Leadership Experience (3)**
 Global Leadership Experience is a course developed to help improve the understanding of global citizenship and provide an opportunity to use leadership skills to create a transformative experience for superior students. This class allows students to interact with and learn about new cultures. A ten-day trip which is the integral experiential learning part of this class.
Prerequisite: Lower level core, junior standing, completion of at least 12 hours of the business core.
- BUS 4474 Business and Society (3)**
 This course focuses on the interrelationships between business organizations and the social, economic, political, and cultural environments in which business organizations function, both nationally and globally. Among other topics, the course will address business ethics, organizational culture and values, social responsibility, and relationships with government, education, and labor unions. This course will be a primary course in which business ethics, and the essential role that ethics must occupy in corporate life, both from national and international perspectives. Particular emphasis will be placed on the concepts of corporate social responsibility (CSR) and sustainability, both nationally and internationally, as essential dimensions of business ethics. What it means to be a good corporate citizen will be a primary theme of this course.
Prerequisite: BUS 3382 or BUS 3330 and Senior Standing
- BUS 4476 Strategic Management (3) (capstone)**
 Capstone course for business majors. Integrates knowledge, skills, and concepts acquired in all business courses taken. Requires students to analyze various corporations, determine threats and opportunities posed by the external environment as well as the firm's strengths and weaknesses, formulate strategic plans for firms, and determine how these plans should be implemented.
Prerequisites: senior standing; completion of or concurrent enrollment in remaining business core courses.
- BUS 4480 Business Seminar (3) (capstone)**
 The purpose of this course is to strengthen the student's competencies in each of the major

functional areas of business, including accounting, finance, global/international and business ethics issues. The course focuses on an application and understanding of business via case studies and experiential activities.

Prerequisite: Senior standing.

Co-requisite: Recommended that this course be taken concurrently with the BSBA capstone course, BUS 4476.

BUS 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)

Additional information is indexed under Guided Independent Research and Study.

Note: This course may not be substituted for any required course. Also see index for "Independent Study and Research."

BUS 4499 General Business Internship (3)

The General Business Internship provides students with the opportunity to gain real-world work experience in their field of study. Students gain practical, professional experience in conjunction with academic development under the supervision of both a faculty member and a supervisor within an organization. A written request must be submitted to the department chair at least two weeks in advance of the semester or term in which the study is to be undertaken.

Note: This course may not be substituted for any required course. Students may earn no more than 6 hours of internship credit.

Prerequisite: Junior or senior standing, department chair approval.

CO-OP COURSES

COOP 3350 Cooperative Education Program

Cooperative Education Programs, or Co-ops, are an extension of the classroom and provide students with experiential, hands-on learning prior to graduation. Co-ops provide the deepest level of industry training and experience, allowing students the opportunity to develop the skills needed to excel in the workplace immediately upon graduation. Co-op will run a full semester or term and are paid, full time positions at a university-approved employer. Students must commit 2-3 semesters/terms to co-op, which will alternate with traditional semesters/terms of study. This class will have a mid-semester and end of semester evaluation. Only one out of the two to three co-op semesters may take place in summer.

Prerequisites: Minimum GPA of 2.5 overall, minimum of 12-semester hours of Troy University credit, approval by academic adviser, flat fee of \$250 per semester

Co-requisite: Contact with co-op coordinator

CROSS DISCIPLINE COURSES (CDC)

Please consult the index of this catalog to locate additional information regarding cross discipline courses and/or experiential learning credit.

CHINESE COURSES (CHI)

CHI 1101 Introductory Chinese I (3)

Introduction to the Chinese language.

CHI 1102 Introductory Chinese II (3)

Introduction to the Chinese language.

Prerequisite: CHI 1101 or permission of instructor.

CHI 2201 Intermediate Chinese I (3)

Progressive development of basic language skills in Chinese.

Prerequisite: CHI 1102 or permission of instructor.

CHI 2202 Intermediate Chinese II (3)

Progressive development of basic language skills in Chinese.

Prerequisite: CHI 2201 or permission of instructor.

CHI 3310 Chinese Culture and Civilization (3)

Introduction to historical and current Chinese culture and civilization.

NOTE: Previous Chinese language study not required.

CHI 4493/94 Guided Independent Study (1-3)

Additional information is indexed under Independent Study and Research.

CHEMISTRY COURSES (CHM)

CHM 1115 Survey of Chemistry (3)

The course will provide an overview of some of the basic concepts and principles of chemistry. Starting with the structure of the atom, the course will proceed on to basic chemical reactions, the formation of ions, states of matter, chemical equilibrium, and chemical bonding, and will incorporate examples from the biological sciences.

Co-requisite: CHM L115.

CHM L115 Survey of Chemistry Lab (1)

The laboratory sessions will provide an overview of some of the basic concepts and techniques of general chemistry experiments. The students will conduct experiments that illustrate the concepts and principles learned in the Survey of Chemistry course lectures.

Co-requisite: CHM 1115.

CHM 1142 General Chemistry I (3)

Emphasis is placed on the periodic table and stoichiometry, including chemical properties, physical states, and structure.

Prerequisite: Pass MTH 1112 with at least a C (or a score of 0, 1, or 5 on the math placement exam).

Co-requisite: CHM L142.

CHM L142 General Chemistry I Lab (1)

Experiments dealing with the periodic table, atomic structure, the gas laws, and stoichiometry.

Co-requisite: CHM 1142.

CHM 1143 General Chemistry II (3)

Acid-base theory, solutions, chemical equilibria, thermodynamics, kinetics, and electrochemistry.

Prerequisites: CHM 1142/L142.

Co-requisite: CHM L143.

CHM L143 General Chemistry II Lab (1)

Experiments in acid-base theory, solutions, chemical equilibria, thermodynamics, kinetics, and electrochemistry.

Co-requisite: CHM 1143.

CHM 2242 Analytical Chemistry (3)

The theoretical principles of modern quantitative wet-chemical methods for determining composition and concentration with rigorous treatment of solution equilibria.

Prerequisites: CHM 1143/L143.

Co-requisite: CHM L242.

CHM L242 Analytical Chemistry Lab (1)

The practice of modern quantitative wet-chemical techniques in analytical chemistry.

Co-requisite: CHM 2242.

CHM 3342 Organic Chemistry I (3)

An introduction to the chemistry of carbon compounds that develops the theoretical principles underlying organic materials.

Prerequisites: CHM 1143/L143.

Co-requisite: CHM L342.

CHM L342 Organic Chemistry I Lab (1)

Experimental techniques and skills for preparing, manipulating, and reacting organic molecules.

- Co-requisite: CHM 3342.*
- CHM 3343 Organic Chemistry II (3)**
A continuation of CHM 3342 with emphasis on modern organic synthesis.
Prerequisites: CHM 3342/L342.
Co-requisite: CHM L343.
- CHM L343 Organic Chemistry II Lab (1)**
Experimental techniques and skills for preparing, manipulating, and reacting organic molecules.
Co-requisite: CHM 3343.
- CHM 3350 Principles of Physical Chemistry (3)**
An introduction to the principles of chemical thermodynamics, reaction kinetics and chemical equilibrium.
Prerequisites: CHM 3343; PHY 2253/L253; or PHY 2263/L263.
Co-requisite: CHM L350.
- CHM L350 Principles of Physical Chemistry Lab (1)**
Practical applications of thermochemistry, colligative properties, and reaction kinetics.
Co-requisite: CHM 3350.
- CHM 3352 Biochemistry (3)**
This course describes the molecular basis of life and discusses the structure, function and metabolism of proteins, carbohydrates, lipids and nucleic acids.
Prerequisites: CHM 3342/L342.
Co-requisite: CHM L352.
- CHM L352 Biochemistry Lab (1)**
This lab illustrates biochemistry lecture material and acquaints the student with biochemistry techniques and equipment.
Co-requisite: CHM 3352.
- CHM 3381 Physical Chemistry I (3)**
Theory and applications of thermodynamics, reaction kinetics, and transport properties with an emphasis on the description of ideal/non-ideal gases and solutions.
Prerequisite: CHM 3343; PHY 2253 and L253 or PHY 2263 and L263; MTH 1126.
Co-requisite: CHM L381.
- CHM L381 Physical Chemistry I Lab (1)**
Introduction to methods and techniques used in the physical chemistry laboratory, including experiments in calorimetry, phase equilibria, reaction kinetics, and transport properties.
Co-requisite: CHM 3381.
- CHM 3382 Physical Chemistry II (3)**
A continuation of CHM 3381 with an introduction to surface phenomena, quantum chemistry, and spectroscopy with an emphasis on properties of surfaces, atomic and molecular structure, molecular orbital theory, and photochemistry.
Prerequisite: CHM 3381.
- CHM L382 Physical Chemistry II Lab (1)**
A continuation of CHM L381 with an introduction to methods and techniques in computational chemistry and spectroscopy.
Prerequisite or Co-requisite: CHM 3382.
- CHM 4400 Special Topics in Chemistry (3)**
A study of topics of special interest, such as advanced physical chemistry, advanced analytical chemistry, advanced organic, group theory, surface chemistry, and colloid chemistry.
Prerequisites: CHM 2242, 3343.
- CHM 4403 Advanced Organic Chemistry (3)**
A more in-depth study of many of the topics studied in Organic Chemistry I and II. Topics include reaction mechanisms, synthetic methods, structure determination using spectroscopic techniques, and stereochemistry.
Offered only at Dothan.
Prerequisites: CHM 3343/L343.
- CHM 4420 Principles of Polymer Chemistry (3)**
An introduction to principles governing polymer synthesis, characterization, and the physical properties of polymers. Topics covered will include molecular weight distribution, polymer composition, characterizations, property-structure relationships, step-growth and chain-growth polymerization and copolymerization.
Prerequisite: CHM 3381.
- CHM L420 Principles of Polymer Chemistry Lab (1)**
Synthesis, characterization, and analysis of various polymers and copolymers.
Prerequisite or Co-requisite: CHM 4420
- CHM 4440 Travel Study in Chemistry (1-3)**
Supervised investigation of relevant topics in Chemistry through travel-study abroad or within the interior of the United States.
- CHM 4444 Advanced Inorganic Chemistry (3)**
Spectroscopy of inorganic molecules, detailed molecular orbital applications, descriptive chemistry of the transition elements, including organometallic and bioinorganic compounds.
Prerequisites: CHM 2242, 3381.
Co-requisite: CHM L444
- CHM L444 Advanced Inorganic Chemistry Lab (1)**
Preparation and characterization of inorganic compounds. Experience will be provided in techniques such as using a tube furnace and handling air-sensitive compounds with a glove bag and Schlenk line.
Co-requisite: CHM 4444.
- CHM 4445 Instrumental Analysis (3)**
The operating principles of modern analytical instrumentation for determining composition and concentration.
Prerequisites: CHM 2242, 3343; PHY 2253/L253; or PHY 2263/L263.
Co-requisite: CHM L445.
- CHM L445 Instrumental Analysis Lab (1)**
The practical application of select modern analytical instruments to qualitative and quantitative examination of matter. Considerable attention is given to the instrument and elementary electronics involved in each.
Co-requisite: CHM 4445.
- CHM 4452 Advanced Biochemistry (3)**
This course will present the reactions, regulations, and organization of metabolic pathways. It is a continuation of CHM 3352, with emphasis on carbohydrate metabolism, aerobic metabolism, lipid metabolism, and other advanced topics in biochemistry.
Prerequisites: CHM 3352.
- CHM 4474 Internship in Chemistry Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP;
Co-requisite: SED 4454 Internship Seminar for Secondary Education.
- CHM 4481 Methods and Materials for the Secondary Teacher (3)**
A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher

evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of chemistry/science materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.

Prerequisite: admission to TEP.

- CHM 4490 Internship in Chemistry (1-3)**
Supervised work experience in the biotechnology industry, governmental agency, business, or other working environment in which a student will learn and apply pertinent professional skills.
- CHM 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is listed under Independent Study and Research in the section on Academic Regulations.
- CHM 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
See index for "Independent Study and Research."
- CHM 4499 Senior Seminar (1)**
Principles of preparing and presenting an oral presentation on a selected chemical topic in the current literature.

CRIMINAL JUSTICE COURSES (CJ)

Note: CJ 1101 Introduction of Criminal Justice and Criminology, is a prerequisite for all 3000 and 4000 level Criminal Justice courses

- CJ 1101 Introduction to Criminal Justice and Criminology (3)**
Agencies and processes involved in the administration of criminal justice.
- CJ 2221 Survey of Law Enforcement (3)**
A survey of policing, covering developmental history, the system of law enforcement organizations in the U.S., personnel administration, police roles and behavior, operations, and major issues such as discretion, civil liability, risk, and excessive force.
- CJ 2231 Survey of Corrections (3)**
Philosophy, theory, and practices involved in the treatment of convicted law violators, the examination, and the appraisal of the effects of correctional treatment upon post-correctional behavior.
- CJ 2241 Survey of Law and Criminal Procedure (3)**
An examination of the American legal system with emphasis on the analysis and processing of criminal offenses, including an examination of constitutional criminal procedure concerning arrest, pre-trial and trial processes.
- CJ 3302 Criminal Justice Administration (3)**
A survey of public administration as it applies to criminal justice organizations. The major dimensions of criminal justice organizations examined include organizational theory, organizational design, leadership and decision making, interpersonal and organizational communication, human resource management, legal aspects of administration, financial management, and organizational change.
- CJ 3305 Crisis Management (3)**
This course provides an overview of methods used to identify, plan for, mitigate, respond, and recover from a variety of events. The structure of the federal and state level crisis management and functions are considered along with the emergency support functions relied upon. Emphasis is placed on the roles and responsibilities of leadership during a crisis along with the framework of national, regional, and local response. The ability
- to understand and evaluate the phases of a crisis, continuity of government, and the private sector during incidents is also examined. Case studies, exercises, and discussions will be used to encourage critical review of the philosophy and principles of crisis management. This course addresses development of risk matrices, identification of threat and risk, crisis theory, stress management and the probability of crisis event occurrence.
- CJ 3308 Foundations of Intelligence (3)**
An intellectual foundation for the study of intelligence, both as it has been practiced through history and as it is currently practiced by different nations and other entities today.
- CJ 3309 Foundations of Homeland Security (3)**
An examination of the political and social complexities and dilemmas associated with state and local law enforcement and federal agencies roles in the defense of our nation subsequent to Sept. 11, 2001.
- CJ 3310 Psychology for Criminal Justice Officials (3)**
Behavior of subjects and police officers in normal and unusual conditions, arrest, interrogation, detention, incarceration, protest, demonstrations, riots, public calamities, reactions of special interest groups, minorities, and specialized tests.
- CJ 3325 Juvenile Justice (3)**
Provides a basic overview of the American juvenile justice system, beginning with the development of the juvenile court and addressing the jurisdiction, role, responsibilities, administration, and organization of the juvenile justice system. Also examined are the interfaces between police, schools, and the court, the issues of child abuse, and the operation of treatment programs.
- CJ 3335 Security Operations (3)**
An introduction to the administration of private security, the analog to the police in the public sector. Issues in private security concerning ethics, law, and policy, as well as administration, are considered.
- CJ 3348 Deviant Behavior (3)**
An examination of the various types of social behavior that violates norms (folkways, mores, and taboos). Special emphasis will be given to the social controls that regulate behavior and the causes and consequences of deviant acts.
- CJ 3349 Punishment (3)**
This course provides an overview of the how and why behind punishment. Looking at social and criminological theories students will examine various interpretations and justifications for punishment to include various legal decisions.
- CJ 3350 Gangs (3)**
An examination of the nature and extent of gangs and gang crime in the United States and around the world.
- CJ 3352 Constitutional Law in Criminal Justice (3)**
Constitutional provisions which are relevant to criminal law and procedure, their construction and development through court interpretation, and their application in criminal proceedings.
- CJ 3365 Victimology (3)**
This course provides an opportunity for the student to gain an understanding of the crime victim's position and issues with the criminal justice system. Specifically, trends, applied responses to victimization, offender-victim relationships, typologies, measuring victimization, and prevention are examined.
- CJ 3367 History of Criminal Justice (3)**
Upon completion of the course the student must have demonstrated his/her knowledge of criminal justice systems from approximately 1700 B.C. to

- the present. With that knowledge and comprehension, the student should be able to analyze and apply lessons learned from that historical context to current situations in the United States Criminal Justice System.
- CJ 3375 Research Methods (3)**
Principles of pure and applied research for the social sciences. Special emphasis is given to the types of research methods employed by social scientists including survey techniques, field research, quasi-experimental designs and analytical procedures currently used in the social sciences.
Prerequisite: General studies math, ENG 1102 or 1104
- CJ 3376 Criminal Justice Statistics (3)**
A detailed description of what social scientists do with the information they gather. Particular attention is given to descriptive and inferential statistics, the relationship between research and policy, evaluation research, and research ethics.
Prerequisite: General studies math.
- CJ 3380 Digital Forensics I (3)**
Basic course designed to introduce the students to identifying and collecting digital data, analyzing the data through the use of forensics tools (hands on) and presenting it in a written report.
- CJ 3382 Social Media Investigation (3)**
The Study of social media and its affects and uses in law enforcement field. The proper way to forensically acquire and preserve social media evidence for use in litigation.
- CJ 4405 National Security and the Law (3)**
A historical and legal exploration of national security law in the United States.
- CJ 4406 Transnational Organized Crime (3)**
A critical examination and analysis of major issues, definitions, and controversies associated with organized and transnational organized crime in a modern world. Historical, criminological, and sociological aspects of crime across national and international borders will be studied and researched. Various groups in transnational organized crime will be studied as they impact continents, countries, and globalization.
- CJ 4407 Homicide (3)**
This course is an examination of Homicide and its investigation. Topics will include types of homicide as well as death by natural and accidental cause. The course will review and expand on investigative theory, collection and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences and case and trial preparation.
- CJ 4408 Drugs, Alcohol, and Criminal Justice (3)**
This course is designed to explore relevant issues of alcohol and drug use, policy and abuse in American society and its relationship with crime and criminal justice.
- CJ 4411 Evidence (3)**
This course will provide the student with an overview of the rules of evidence applicable in criminal cases. The course will begin with an overview of the criminal trial process. Basic evidence concepts will then be explored, with particular emphasis placed upon the Federal Rules of Evidence. The course will then specifically focus on evidence concepts including, but not limited to: witness competency and impeachment, hearsay, admissions & confessions, circumstantial evidence, documentary & physical evidence and the exclusionary role.
- CJ 4415 Correctional Systems and Practices (3)**
An examination of the day-to-day operations and practices in modern correctional facilities in the local, state, and federal systems.
- CJ 4420 Comparative Criminal Justice (3)**
A comparative examination of criminal justice systems throughout the world with specific attention given to legal and political systems, organization and methods of law enforcement, jurisprudence, correctional policies, and practices. Theoretical frameworks, models, and propositions addressing crime across various societies are also considered.
- CJ 4421 Ethics and Civil Liability (3)**
An introduction to concepts of ethics and an examination of contemporary ethical issues in the field of criminal justice including the conduct and ethics of criminal justice practitioners that give rise to civil liability and will focus on aspects of risk management to help prevent legal claims. The course will focus not only on the potential liability of police officers, corrections officers and other criminal justice practitioners for deprivation of civilians US Constitutional rights under state and federal law, but will also address officer's day to day dealings with civil law issues while performing duties mandated under criminal law.
- CJ 4425 Violence in America (3)**
In-depth study of violence, including types of violence, categories of offenders and victims, social consequences, and potential solutions.
- CJ 4430 Selected Topics in Criminal Justice (3)**
An examination of a criminal justice topic chosen for its current or special interest and importance and that is not given in-depth coverage in other courses; selection topics will vary with each course offering (although a particular topic may be offered more than once).
- CJ 4440 Terrorism (3)**
A critical examination and analysis of major issues, definitions, and controversies associated with the development of terrorism in the modern world. Historical, religious, and psychological and sociological aspects and explanations of terrorism will be covered, along with the characteristic means and methods terrorist groups employ.
- CJ 4442 Criminal Investigation (3)**
A detailed examination of what is necessary to investigate crimes, interview people using various methodologies to solve crimes and/or prepare a case for prosecution.
- CJ 4444 Community Corrections (3)**
An examination of the purposes and goals of community-based corrections and its various components, including pretrial diversion, probation, parole, and emerging alternatives to traditional incarceration.
- CJ 4445 Current Issues in Law Enforcement Operations and Administration (3)**
A detailed examination of applied concepts of leadership and problem solving in law enforcement operations and administrations. Special emphasis is attached to current problems surfacing in law enforcement.
- CJ 4446 Current Issues in Correctional Operations and Administration (3)**
A detailed examination of applied concepts of leadership and problem solving in corrections and administration. Special emphasis is attached to current problems surfacing in corrections.
- CJ 4447 Current Issues in Legal Systems Operation and Administration (3)**
A study of the critical issues and concepts involved in modern court administration, including the law governing the presentation of evidence in the trial

- of criminal cases, analysis of the role of law, and the courts in American Society.
- CJ 4455 Advanced Victimology (3)**
An examination of a criminal justice topic chosen from its current or special interest and importance and that is not given in-depth coverage in other courses.
Prerequisites: CJ 1101
- CJ 4456 Human Trafficking (3)**
Human trafficking is a course designed to help students gain a better understanding of contemporary human trafficking and modern-day slavery. Important terminology in this field, the different types of human trafficking that exist and an understanding of the scope of the problem, both domestically and globally will be explored. It will also discuss the physical, emotional, psychological, and spiritual trauma experienced by victims of human trafficking and the methods used for recruitment and control. The roles of government, the media, faith-based organizations, organized crime and culture will also be explored.
Prerequisites: CJ 1101
- CJ 4465 Criminal Justice Study Abroad (1-3)**
An introduction to study abroad programs with a comparative study of norms, culture, policing, courts, and punishment. Particular consideration is also given to travel advice and safety while studying abroad.
- CJ 4472 Cyber Crime (3)**
This course will introduce the topics of computer crime and computer forensics. Students will be required to learn different aspects of computer crime and ways to uncover, protect, and exploit digital evidence. Students will be exposed to different types of tools, both software and hardware, and an exploration of the legal issues affected by on-line and computer-related criminal conduct. The course will examine the evolution of criminal law relative to the development of new technology.
- CJ 4475 Seminar in Cyber Security (3)**
A capstone course designed to integrate subject matter learned in previous courses, encourage critical analysis of contemporary issues, and seek further information on testing and certifications beyond the university setting.
- CJ 4480 Digital Forensics II (3)**
In depth study and analysis of operating system artifacts, event log, html, web browsers...analyzing the data and presenting it in a written report.
Prerequisite: CJ 3380.
- CJ 4481 Operating and File System Forensics (3)**
Examination of common file systems and operating system artifacts. Students will learn general components of FAT and NTFS file systems and how data is stored. Explore artifacts from common operating systems such as Apple's OS X and Microsoft's Windows family. This course will explore the most commonly used file systems and operating system artifacts in preparation for real-world analysis and digital forensics.
- CJ 4482 Digital Evidence Practicum (3)**
Examine various techniques and procedures for law enforcement officers related to the forensically sound identification, seizure and collection of evidence through classroom study and practical exercises.
- CJ 4489-90 Internship in a Criminal Justice Agency (3)**
Experience in a selected criminal justice agency, working in groups or individually. Supervised application and observation of concepts, principles, skills, operation and functions of knowledge acquired by the student in previous or current
- course work and studies. Problems will be identified with attendant solutions in the areas of police work, the correctional agencies, or the court systems as appropriate to the student's program of study.
Prerequisite: Criminal Justice Major, CJ 1101, CJ 2221, CJ 2231, CJ 2241; junior/senior classification; 3.0 cumulative GPA, 3.5 major GPA; consultation with department Internship Coordinator
- CJ 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- CJ 4493-94 Guided Independent Study (1 to 3 credit hours per course semester)**
Additional information is indexed under Independent Study and Research.
- CJ 4498 Criminological Theory (3)**
An examination of crime, overall and by category, and an examination of theories of crim causation, their research support and their impact on social policy, categories of crime, etc. The criminological theories covered will be classical, biological, psychological, economic, and multidisciplinary.
Prerequisite: CJ 1101, CJ 2221, CJ 2231, CJ 2241
- CJ 4499 Professional Seminar in Criminal Justice (3)**
This is a capstone course designed to (1) help seniors integrate the knowledge gained from their other required criminal justice courses, (2) assist them in developing analytical thinking skills through focusing on selected topics using a seminar approach, and (3) support them in gaining a better understanding of the criminal justice profession and the role they may play in it.
Prerequisites: Completion of all Criminal Justice core courses, Senior status or permission from instructor.
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- CLASSICS COURSES (CLA)**
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- CLA 2210 Greek and Roman Culture (3)**
A survey of the cultural achievements of the ancient Greeks and Romans.
- CLA 2260 Classical Mythology (3)**
Myths of the Greeks and Romans and their influence.
- CLA 2290 Classical Literature in English Translation (3)**
Greek and Roman masterpieces as expressions of humanity.
Prerequisites: ENG 1101, 1102.
- CLA 3311 Civilization of Greece (3)**
Historical and cultural achievements of the Greeks and their legacy to the modern world.
Note: May be taken for credit as an elective in the Department of History.
- CLA 3312 Civilization of Rome (3)**
Historical and cultural achievements of the Romans and their legacy to the modern world.
Note: May be taken for credit as an elective in the Department of History.
- CLA 3330 Classical Epic (3)**
Homer's *Iliad* and *Odyssey*, Virgil's *Aeneid*, and the epic tradition.
- CLA 3350 Classical Drama (3)**
The ancient theatre and its influence with selected plays by Greek and Roman playwrights.
- CLA 4400 Selected Topics in Classics (3)**
Selected topics in classical studies generally not covered in other courses.
May be repeated once for credit.

CLA 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

CLA 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

COMMUNICATION COURSES (COM)

COM 1101 Introduction to Communication (3)

This course surveys the historical and cultural impact of human and mass communication including newspapers, magazines, radio, television, sound recordings, motion pictures, and the internet. It features the inventions, innovators, and technology that have driven mass communication development since the introduction of the printing press. It also discusses social effects and ethical concerns of communication.

COM 2231 Interpersonal Communication (3)

Study of theories of communication behavior in relatively unstructured face-to-face situations, including small-group discussion.

COM 2241 Fundamentals of Speech (3)

This course is a study of the principles and practices basic to public speaking. This course is designed to enhance the student's verbal and non-verbal communication skills through oral communication theory and practical application.

COM 2243 Honors Fundamentals of Speech (3)

Study and application of the principles and practices basic to all areas of oral communication. As part of the university's Honors Program, the course is designed to achieve the student's leadership objectives through improved verbal and non-verbal communication skills by means of a focus on one substantive area of interest.

COM 2251 Voice and Diction (2)

Study of individual and group practice in the effective use and control of the mechanics of oral delivery with a focus on the "professional dialect" the general American dialect and/or the standard dialect. Includes use of the International Phonetic Alphabet.

COM 3320 Interviewing and Information (3)

Study of the principles and practices of professional and personal interviewing, with an emphasis on oral communication and related topics such as resume writing. In addition, the course will focus on gathering and analyzing information through discussion and practice of the techniques of online research, focus groups and opinion surveys.

COM 3324 Gender Communication (3)

This course examines the communication styles of males and females emphasizing gender-related communication behavior and its implications for the ability to maintain effective personal and professional relationships.

COM 3326 Conflict Management (3)

This course is designed to offer students opportunities to enhance and improve their communication techniques and skills in conflict management. The course teaches students communication methods to manage productively interpersonal disputes between/among parties. It emphasizes building partnerships and long-term positive relationships in the business world and in one's personal life.

COM 3328 International/Intercultural Communication (3)

This course is designed to introduce students to the basic concepts, principles, and skills needed for improving communication among persons from

different minority, racial, ethnic and cultural backgrounds.

COM 3341 American Public Address (3)

Study of the history and rhetorical criticism of major American speakers and their speeches from the Colonial to the Contemporary periods, with references to their biographical, intellectual, political and social contexts.

COM 3342 Argumentation and Debate (3)

Study and application of the principles of argumentation and debate, including selected aspects of the management of a program of competitive forensics.

COM 3345 Group Discussion and Leadership (3)

Study and application of the principles and practices of group problem solving through the study of the dynamics of discussion and group leadership.

COM 3365 Fundamentals of Speechwriting (3)

This course gives a hands-on, detailed instruction in the art and skills of researching and writing solid speeches, including how to make points clearly and maintain the audience interest. Speechwriting is approached from the perspective of writing speeches for others and for yourself.

COM 3380 Travel Study in Journalism and Communication (3)

A Troy University faculty supervised study of journalism, communication and mass media through travel abroad or within the interior of the United States.

May be repeated once for credit.

Prerequisites: Permission of instructor.

COM 4400 Special Topics in Communication Studies (1 to 3 credit hours)

Examination of selected topics in communication studies not included in the established curriculum. Content may be of a historical, thematic, or technological nature.

May be repeated for credit.

COM 4410 Communication Research (3)

This course will help students develop critical thinking skills through an introduction to the concepts and principles of scientific research in communication and journalism. Some of the topics included in this class are the basics of identifying problems, hypothesis formation, measurement construction, validation, research designs, analysis techniques and proper interpretation of results.

Prerequisite: Must have Junior Standing or permission of instructor.

COM 4420 Propaganda and Persuasion (3)

This course will explore influence techniques in print, graphics, traditional media and social reality as they migrate to interactive spaces. The course will first examine the history and fundamentals of persuasion, influence, and coercion, and then look at how they have been adapted for use in today's interactive contexts. Throughout this course there will be a discussion of the relative ethics of using propagandistic/persuasive techniques for different purposes.

COM 4422 The Rhetoric of the Civil Rights Movement (3)

This course will focus on civil rights discourse and its relationship to equality and participation in the U.S. and other nations worldwide. Using the struggle of African Americans as an instructive exemplar, this course will examine the philosophical concepts, political issues, moral complexities, and discursive characteristics of civil rights rhetoric.

COM 4424 Rhetorical and Communication Theory (3)

This course presents an introduction to rhetorical

theory and communication theory; students will gain experience in applying theoretical approaches to practical applications in criticism and analysis of communication. Students will gain insights into how to communicate effectively in writing, visually and orally as well as how to analyze critically communication occurring in a wide array of contexts and for different purposes, from private and interpersonal settings to public and professional arenas.

- COM 4426 Organizational Communication (3)**
This course presents both historical and current perspectives on the origins and usefulness of organizational theory relating to communication issues; it emphasizes the relationship between organizational life and communication principles; and provides both theory and the opportunity for the practical application of communication skills in a variety of organizational settings.
- COM 4430 Health Communication (3)**
This course focuses on an examination of the nature, contexts, theories, and selected research shaping health care consumers understanding of health communication issues. It provides an overview of provider-recipient communication, communication in health-care organizations, and public health concerns as they relate to physical, mental, and social health issues.
- COM 4441 Oral Interpretation (2)**
A study and application of the principles and practices of oral interpretation (reading) of literature, including individual and ensemble performance.
- COM 4460 Crisis Communications (3)**
Prepares students for anticipating and managing perceived and real crises faced by communication.
- COM 4491-92 Guided Independent Research (1 to 3 credit hours per course)**
Additional information is indexed under Independent Study and Research.
- COM 4493-94 Guided Independent Study (1 to 3 credit hours per course)**
Additional information is indexed under Independent Study and Research.

COMPUTER SCIENCE COURSES (CS)

- CS 2210 Applications of Computer Science (3)**
This course provides students the concepts of data and techniques in data centric applications. The topics include but not limited to data entry, retrieval, preparation, analysis and visualization. Software tools are introduced to help the tasks.
- CS 2220 Numerical Methods in Computing (3)**
Introduces a broad range of mathematical problems and their applications in scientific computing using various numerical computation techniques. Topics include but not limited to numerical analysis, floating point arithmetic, computational algebra, iterative solution to nonlinear equations and interpolation.
Prerequisite: MTH 1112.
- CS 2250 Computer Science I (3)**
An introduction to the theory and development aspects of a high-level programming language. The course covers programming methodologies, control structures, predefined and user defined functions, input/output streams, control structures, logical expressions, enumeration, repetition, multidimensional array and string manipulation, structures, searching, sorting techniques, and advanced input/output. Program analysis, design, development, and testing are emphasized.

Prerequisite: MTH 1112.

- CS 2255 Computer Science II (3)**
A continuation of Computer Science I to include advanced programming techniques including classes and data abstractions, inheritance and composition, pointers, virtual functions, overloading, exception handling, and recursion. Students analyze, design, implement, and test complex programs.
Prerequisite: CS 2250.
- CS 2265 Advanced Programming I (3)**
Provides student the opportunity to gain experience and training in an additional high-level language. The course focuses on advanced topics including objects, structures, applets, graphics, exception handling, files, and streaming.
Prerequisite: CS 2250.
- CS 3310 Foundations of Computer Science (3)**
A broad perspective of computer science concepts intended as preparation for more in-depth coverage in higher-level courses. Topics include machine and assembly language programming, computer system organization and operation, logic circuits, finite-state diagrams and programming language grammar, Boolean algebra, and circuit design considerations.
Prerequisite: MTH 1112.
- CS 3320 Business Systems Programming (3)**
The study and application of a business-oriented programming language. Students apply a structured, multiphase program development process that features a series of steps involving understanding of problems, formal problem definition, design methodologies, program specification, and file definition as applied to business processing systems. The course includes the study and application of the following concepts: structured design methodology, divisions, arithmetic and intrinsic functions, decisions structures and logical control structures, iterative processes, case structure, error capture, batch processing, file manipulation, table manipulation, and interactive structures.
Prerequisite: CS 2255.
- CS 3323 Data Structures (3)**
A survey of data structures that includes lists, ordered lists, linked lists, stacks, queues and trees. Also included are measurement of program performance and how program performance is affected by alternative data structures. These concepts are presented within an object-oriented framework. Programming labs are included.
Prerequisite: CS 2255, MTH 1125, 2215.
- CS 3325 Operations Research (3)**
Introduction to operations research, linear programming, simplex-based sensitivity analysis and duality, linear programming applications, network models, simulation, waiting line models, Markov processes, forecasting, and inventory models.
Prerequisites: MTH 1125
- CS 3329 Analysis of Algorithms (3)**
Alternative techniques to solve computer science problems are presented. Problems include sorting, searching, and graph traversal, lists, ordered lists, linked lists, stacks, queues, and trees. These concepts are presented within an object-oriented framework.
Prerequisite: CS 3323.
- CS 3330 Data Structures and Algorithms (3)**
A course in fundamental data structures concepts and alternative techniques for solving real-world problems in computer science. Concepts and application covered include analysis of data representation and associated algorithms, including

- linked lists, queues, stacks, arrays, graphs, trees, searching, sorting, string matching, and the application of recursive techniques. The course will place an emphasis on the implementation of various algorithms and data structures.
Prerequisites: CS 2255, MTH 2201, 2215.
- CS 3331 Fundamentals of Artificial Intelligence (3)**
Approaches to the definition of artificial intelligence and to the design and implementation of intelligent computer systems. Topics include the Turing Test, Sourly; Chinese Room, blackboard systems, logic programming, knowledge based systems, scripts and schemas, and heuristic search techniques.
Prerequisite: CS 3323 or 3330.
- CS 3332 Software Engineering I (3)**
Topics are presented that focus on the design and development techniques for large high quality software systems. They include project management issues, analysis and design methods, and approaches to testing.
Prerequisite: CS 3323 or 3330.
- CS 3333 Introduction to Cryptography (3)**
Discussion of mathematical foundations to the theory of cryptography. Topics include information theory, number theory, cryptographic protocols and various algorithms.
Prerequisite: MTH 1125.
- CS 3334 Foundations of Cyber Security (3)**
Course provides an introduction to cyber security. Topics include security protocols and policies, basic cryptography, various kinds of cyber threats and defenses, secure software design, key management, attack modeling and risk analysis.
Prerequisite: MTH 1112
- CS 3336 Information Assurance (3)**
This course focuses on the managerial aspects of information security and assurance. Topics include access control model, information security governance and information security program assessment and metrics. Foundational and technical components of information security is discussed as well.
Prerequisites: CS 3334
- CS 3347 Advanced Programming II (3)**
Provides student the opportunity to gain experience and training in an additional high level language. Topics include interactive techniques, arrays, multiple forms, data files and databases, grids, graphics, and custom objects. Emphasis is on finding creative solutions to application problems.
Prerequisite: CS 2255.
- CS 3360 Concepts of Object Oriented Programming I (3)**
Provides students the opportunity to gain experience and training in an additional high level language. The course focuses on advanced topics including classes, objects, interfaces, applications, encapsulation, exceptions, multithreading, graphics, exception handling, files, and streaming.
Prerequisite: CS 2250.
- CS 3361 Concepts of Object-Oriented Programming II (3)**
The conceptual framework for object-oriented programming and systems. Topics include classes, data hiding, modularity, inheritance, and reusable code presented through the use of some object-oriented language.
Prerequisite: CS 3360.
- CS 3365 Introduction to Computer Organization and Architecture (3)**
Organization and operation of computer systems are discussed. Topics include, but not limited to hardware components of digital computers, performance of computer systems, instruction set architectures, processor design, memory mapping and management and interrupt organization.
Prerequisite: CS 3310.
- CS 3370 Nature of Programming Languages (3)**
Basic principles and concepts of programming languages including what a programming language is, various paradigms that a language can follow, and how its syntactical and semantic structures can be specified. The traditional object-oriented paradigm will be presented as well as non-traditional paradigms based on symbolic logic (logic programming) and on functions in lambda calculus (functional programming).
Prerequisite: CS 3323 or 3330.
- CS 3372 Formal Languages and the Theory of Computation (3)**
Formal language theory, including the Chomsky hierarchy, is presented. Emphasis is placed on regular and context free grammars, finite state automata, and translators.
Prerequisite: CS 3323 or 3330.
- CS 3375 Foundations of Networking (3)**
An introduction to the principles of data communications and network systems. Topics to be addressed include standards, topologies, network management, LAN, WAN, Internet, basic communication protocols and introductory level network security.
Prerequisite: CS 3310. Students majoring in Applied Computer Science or in the Computer Science Program may not apply this course to the Cyber Security Minor or certificate. Credit will not count toward a major or minor in Computer Science.
- CS 4401 Advanced Artificial Intelligence (3)**
A continuation of Fundamentals of AI. A topic of research including logic programming, fuzzy sets genetic algorithms, artificial neural networks, or pattern analysis is included.
Prerequisite: CS 3331.
- CS 4410 Introduction to Machine Learning (3)**
The course introduces machine learning concepts, algorithms, and applications, topics covered included but not limited to regressions, clustering, decision tree, Bayesian learning, support vector machine, deep learning, feature reduction, hypothesis, bias, and model fitting. The course will discuss applications of machine learning with an emphasis on programming and real world problem solving.
Prerequisite: CS 3323 or CS 3330.
- CS 4420 Introduction to Database Systems (3)**
The fundamental concepts and structures necessary for the design and implementation of a database management system. Students design, load, and query a database using tools such as E-R diagrams and SQL. Also includes data normalization and file and index organization.
Prerequisite: CS 3323 or 3330.
- CS 4443 Web Application Development (3)**
Provides the essentials of Internet programming. Students will design and implement web applications utilizing various web technologies for the front-end and back-end development of the website. Applications will deal with many forms of data including graphics, audio, and video. Students use modern development tools and design methods to implement an enterprise web application.
Prerequisite: CS 3323 or 3330.
- CS 4445 Data Communication and Networking (3)**
Provides an overview of local-area and wide-area networked systems. Topics include but not limited to standards, topologies, management, and communication protocols. This course will discuss network systems with an emphasis on programming

- and real-world application development. This course involves hands-on projects.
Prerequisite: CS 3323 or 3330.
Students majoring in Applied Computer Science or in the Computer Science Program may not apply this course to the Cyber Security minor or certificate.
- CS 4447 Systems Analysis and Design (3)**
Study of the analysis of computer-based information systems. Emphasis is placed on analysis, specifications development, design, and development of information systems, including the software and databases that support the business needs of organizations. Both data-oriented and process-oriented design methods are covered. Topics include the systems analyst, the systems development life cycle, methodologies, development technology, systems planning, project management, systems analysis, systems design, systems implementation, and systems support.
Prerequisite: CS 3323 or 3330.
- CS 4448 Operating Systems (3)**
An overview of operating system functions and components. Issues include process definition, scheduling, and memory management. Various modern operating systems are compared.
Prerequisite: CS 3323 or 3330.
- CS 4449 Applied Networking (3)**
Provides an overview of computer networks and its use in industry environments. Topics include OSI model, TCP/IP, Ethernet, wireless network, client-server network, network hardware and software, network administration, application software, internetworking components, and key issues in network management.
Prerequisite: CS 3375 or CS 4445.
- CS 4451 Computer Security (3)**
Basic security concepts and principles applied to real-world applications. Introduces the major elements that go into a security implementation, including encryption, authentication, access control lists, execution control lists, vulnerability of operating systems, auditing, performing vulnerability analysis and risk assessment, developing a security plan and protecting data, systems and infrastructure. This course also builds on the fundamentals of reliability and safety engineering, which include software reliability, growth models, testing and stopping-rules, safety methods and redundancy.
Prerequisite: CS 3323 or 3330.
- CS 4452 Cyber Security Policies and Compliance (3)**
Course introduces the development of effective cybersecurity policies within the organization-wide cybersecurity framework. Topics including cyber law, cyber policy, intellectual property, privacy, professional responsibility, and global societal impacts.
Prerequisite: CS 3334.
- CS 4453 Ethical Hacking (3)**
Course provides an introduction to the principles, techniques, and tools of ethical hacking. Topics include information gathering and scanning, vulnerability analysis and exploitation. Emphasis is placed on hands-on and practical real world security threats and remedies.
Prerequisite: CS 4445 or CS 4449.
- CS 4454 Secure Software Development (3)**
Focuses on a comprehensive understanding of what the secure software development is. Topics include but not limited to secure software programming concepts and techniques and its application to identify threats and vulnerabilities of software. In addition, students will have opportunities to apply secure requirement process to the secure software
- life cycle (SSDLC), including requirement specification, requirement analysis and architectural design.
Prerequisite: CS 3323.
- CS 4455 Cyber Security Techniques and Practices (3)**
This course introduces various tools and techniques used to secure computer systems. Topics include packet analysis with diagnostic software, firewall configuration, conduct forensic investigation, etc.
Prerequisite: CS 4453.
- CS 4456 Front-End Development (3)**
Front end development and performance issues are discussed. Contemporary front-end UI tools and frameworks are studied. Focus will be on java script-based frameworks and data styling and presentation solutions for building UIs. Students will learn how to build service oriented responsive client-side applications.
Prerequisite: CS 4443.
- CS 4457 Server-Side Development (3)**
Server-side development, performance and testing issues are discussed. Students will learn about back-end as a service and database solutions for CRUD (Create, Read, Update, Delete) operations. REST API development model is followed.
Prerequisite: CS 4443.
- CS 4458 Mobile Application Development (3)**
Application development issues for mobile handheld devices are discussed. Students will learn about components in smart phones including but not limited to services, inter-process communication, content providers, etc. Focus will be on the test-driven development of maintainable mobile apps. Both front end and back-end issues will be discussed using a state-of-the-art programming framework.
Prerequisite: CS 3360.
- CS 4461 Software Engineering II (3)**
This course is a continuation of Software Engineering I with additional topics that include software quality insurance and testing techniques. Students will design, implement and test a large project.
Prerequisite: CS 3332.
- CS 4462 Special Topics in Object-Oriented Programming (3)**
This course is a continuation of CS 3361. It presents the conceptual framework for the design of object-oriented systems. Topics include re-factoring designs and design patterns, presented through the use of some object-oriented language.
Prerequisite: CS 3361.
- CS 4499 Internship in Computer Science (1-3)**
The Computer Science Internship is a supervised work experience that provides students with the opportunity to gain applied work experience in their field of study.
Prerequisites: Chair's/Program Director's Approval Needed.
- CS 4480 Study Abroad in Computer Science (1-3)**
The Computer Science Study Abroad provides students with the opportunities to take computer science courses at universities overseas.
Prerequisites: Chair's/Program Director's Approval Needed.
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- DANCE COURSES (DAN)**
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- DAN 1112 Contemporary Technique I (2)**
Designed for the dance major, DAN 1112 is the study of beginning/intermediate Contemporary dance, including dynamic alignment, body/mind

- connection, increased vocabulary and musicality, with emphasis on artistry through the contemporary aesthetic.
Prerequisite: Placement.
- DAN 1115 Ballet Technique I (2)**
Designed for the dance major, DAN 1115 is the study of beginner/intermediate ballet technique, including safe and efficient alignment and clear articulation of movement vocabulary with emphasis on increased vocabulary and musicality.
Prerequisite: Placement.
- DAN 1130 Social Dance in the 21st Century (1)**
A cross-cultural survey of theories and styles of dance, their relationship to societal contexts and other art forms.
- DAN 1132 Beginning Contemporary for Non majors (1)**
Refinement of technical skills in contemporary/modern dance at the intermediate level, including intermediate movement capabilities, rhythmic structures, spatial relationships, movement vocabulary with emphasis on aesthetic and expressive qualities that lead to performance.
Prerequisite: Placement.
- DAN 1134 Ballroom Dance**
An introduction to social dancing with an emphasis on American ballroom dances (foxtrot, waltz, swing) and Latin ballroom dances (cha cha, mambo, tango). Equivalent to KHP 1134.
- DAN 1135 Beginning Ballet for Non-Majors (1)**
The development of technical skills in beginning ballet, including safe and efficient alignment and clear articulation of movement vocabulary with emphasis on increased vocabulary and musicality.
- DAN 1136 Jazz I (1)**
The study and application of the fundamental concepts, skills, movement vocabulary, and artistic expression specific to beginning jazz dance.
- DAN 1137 Tap I (1)**
Progressive development of beginning to low/intermediate movement concepts, skills, vocabulary, and styles specific to tap dance.
- DAN 1150 Creative Habit (1)**
A component of the Department of Theatre and Dance First Year Initiative program (FYI), Creative Habit is part of the introductory learning community established at the entry level for incoming theatre and dance students. Centering on Twyla Tharp's book *The Creative Habit*, the learning community examines strategies for successful studies in theatre and dance.
Co-requisites: THE 1130 and TROY 1101.
- DAN 2200 Orientation to Dance (2)**
Introduction to the basic concepts and principles common to ballet, contemporary and jazz dance through studio experience, discussions and concert attendance. This is a skills class.
- DAN 2212 Contemporary Technique II (2)**
Designed for the dance major, DAN 2212 is the study of intermediate modern, including dynamic alignment, body/mind connection, complex center and across the floor phrase work with increased vocabulary and musicality.
Prerequisite: Placement.
- DAN 2214 Pointe Ballet Technique I (2)**
Designed for the female dance major, DAN 2214 is the foundational study of pointe work technique using specially reinforced shoes called pointe shoes. Students will focus on Barre and center work that will introduce the foundation and basics needed to strengthen the student's legs and torso to overcome the demands of dancing in pointe shoes. The class will offer an increased vocabulary specific to dance on pointe.
- DAN 2215 Ballet Technique II (2)**
Designed for the dance major, DAN 2215 is the further development of technical skills in intermediate ballet, including dynamic alignment, body/mind connection, with emphasis on self-expression through the ballet aesthetic, increased vocabulary and musicality.
Prerequisite: Placement.
- DAN 2228 Contemporary Partnering (1)**
Designed for all skill levels, this class will focus on contemporary partnering and weight-sharing technique. The course will introduce special vocabulary vital to the enhancement of skills needed to become a complete and secure partner.
- DAN 2232 Beginning-Intermediate Contemporary for Non-Majors (2)**
Refinement of technical skills in contemporary/modern dance at the intermediate/high intermediate level, including complex movement capabilities, rhythmic structures, spatial relationships, movement vocabulary with emphasis on aesthetic and expressive qualities that lead to performance.
Prerequisite: Audition placement or permission of the Department of Theatre and Dance.
- DAN 2235 Beginning-Intermediate Ballet for Non-majors (2)**
Further development of technical skills in beginner/intermediate ballet, including dynamic alignment, body/mind connection, with emphasis on self-expression through the ballet aesthetic, increased vocabulary and musicality.
Prerequisite: Placement.
- DAN 2236 Jazz II (2)**
The study and application of the fundamental concepts, skills, movement vocabulary and artistic expression specific to jazz dance.
Prerequisite: Placement.
- DAN 2237 Tap II (1)**
Progressive development of intermediate to intermediate/high movement concepts, skills, vocabulary, and styles specific to tap dance.
Prerequisite: Placement.
- DAN 2240 Writing for Dance (2)**
This class will guide the student through a variety of ways to write for and about dance. From free writing to formal research, students will gain skills to think and write critically about dance as an artistic, cultural, educational, social art form.
Prerequisite: ENG 1102
Corequisite: DAN 4410
- DAN 2250 Music Fundamentals for Theatre and Dance (2)**
Fundamental music skills for theatre and dance, including those for musical theatre, stage management, dance, and actors. The course focuses on reading music (rhythm and melody), vocabulary, development of aural skills, and an introductory recognition of the piano keyboard.
- DAN 2252 Methods of Teaching Dance (3)**
Social, folk and square dancing, including basic rhythmic activities which can be taught in elementary, middle and high schools. Equivalent to KHP 2252.
- DAN 2289 The Dance Professional (1)**
A preparation course that provides upper-level students with the tools to launch their professional dance career and livelihood.
Prerequisite: Junior status
- DAN 3300 Musical Theatre Dance I (2)**
The exploration of the genre of musical theatre dance examining storytelling, script, music, and mood through movement. This course will focus on early American jazz and tap styles related to theatre production by working with selected pieces from the mid-20th century including that of Gene Kelly,

- Fred Astaire, Jerome Robbins, and other icons of this period.
Prerequisites: DAN 1135.
- DAN 3312 Contemporary Technique III (2)**
Designed for the dance major, DAN 3312 is the study of advanced modern dance, including dynamic alignment, body/mind connection, and increased vocabulary with emphasis on artistry through the contemporary aesthetic. Students will focus on complex center and across the floor combinations with an emphasis on musicality and a greater understanding of anatomical alignment.
Prerequisite: Placement.
- DAN 3314 Pointe Ballet II (2)**
Designed for the intermediate/advanced female dance major, DAN 3314 is the further development of pointe work technique using specially reinforced shoes called pointe shoes. Barre and center work will strengthen the student's legs and torso, increasing vocabulary, comfort, and ease of movement while dancing on pointe.
Prerequisite: Pointe Ballet I or Placement.
- DAN 3315 Ballet Technique III (2)**
Designed for the dance major, DAN 3315 is the further development of technical skills in advanced ballet, including dynamic alignment, body/mind connection, increased vocabulary, with emphasis on the qualities of self-expression and musicality which lead to performance.
Prerequisite: Placement.
- DAN 3330 Special Topics in Dance (1 to 3)**
Special topics in dance.
- DAN 3332 Intermediate Contemporary for Non- majors (2)**
Continued refinement of technical skills in contemporary/modern dance at the high intermediate/advanced level, including complex movement capabilities, rhythmic structures, spatial relationships, movement vocabulary with emphasis on aesthetic and expressive qualities that lead to performance.
Prerequisite: Placement
- DAN 3335 Intermediate Ballet for Non-majors (2)**
Further development of technical skills in advanced ballet, including dynamic alignment, body/mind connection, with emphasis on self expression through the ballet aesthetic.
Prerequisite: Placement.
- DAN 3336 Jazz III (2)**
The study of the advanced concepts, skills, movement vocabulary and artistic expression specific to jazz. *Prerequisite:* Placement.
- DAN 3340 Dance Composition and Choreography I (2)**
An exploration of movement and an analytical study of the art of making dances. The course will concentrate on the four basic elements of composition: space, shape, time and energy.
Prerequisite: Permission of the Department of Theatre and Dance.
- DAN 3350 Conditioning (2)**
Designed to complement the dancer's regimen, DAN 3350 will focus on a hybrid conditioning experience to include pilates, yoga, floor barre, jogging, and swimming, improving the dancer's overall strength, stamina, flexibility and muscle tone and will assist in overcoming specific musculature weaknesses.
- DAN 3351 Men's Ballet Technique (2)**
Designed for male dance majors, the course will focus on the elements necessary for improving the vocabulary of the male dancer, such as jumps, turns, and line. The course will focus on dynamics necessary to increase speed, coordination, and elevation, especially as needed to execute big jumps. Anatomical placement, strength, and musicality will be the emphasis to build confidence in men's variations, in classical and contemporary styles.
- DAN 3352 Pas de deux (2)**
Designed for the intermediate dance major, DAN 3352 is the study of partnering technique. The course will focus on the elements needed for the female and the male dancer to develop a foundation for dancing together, progressing technically through promenades, lifts, turns, and jumps. The course will introduce special vocabulary that is used only in partnering which enhances the skills needed to become a complete and secure dancer.
- DAN 3353 Anatomy and Alignment (3)**
This course covers aspects of anatomy and kinesiology that directly apply to correct development of dance technique, emphasizing exercises and imagery for floor and center work to correct insufficient muscle patterns and is designed to give dance majors a practical, functional, and theoretical understanding of kinesiology such as identifying bony landmarks, muscles, and joint actions as well as injury prevention.
- DAN 3354 Improvisation (2)**
This course introduces students to the art of improvisation. They will examine the elements of and approaches to the improvisational process as they develop their ability to react imaginatively to extemporaneous situations created through dance. This course will focus on spontaneous problem solving through the exploration of movement and will evoke the student's individual creative process while maintaining the sense of ensemble.
- DAN 3355 Commercial Dance I (2)**
This course addresses the needs of dancers who aspire to perform in television, music videos, or on stage. Students will receive intermediate technical instruction in a variety of dance forms and styles that will introduce them to the commercial industry. With an emphasis on the artistry of the commercial dance aesthetic, students will develop technical skills, including dynamic alignment and body/mind connection, increased musicality, and movement vocabulary. Special attention will be placed on tricks, jumps, and turns.
- DAN 3356 Commercial Dance II (2)**
This course addresses the needs of advanced dancers who aspire to perform in television, music videos, or on stage. Students will receive advanced technical instruction in a variety of dance forms and styles, which will expand on principles established in Commercial Dance I.
Prerequisite: DAN 3355.
- DAN 3360 Musical Theatre Dance II (2)**
Further exploration of the genre of musical theatre dance examining storytelling, character, script, score, and mood through movement. This course will focus on late 20th century (1975 forward) and contemporary dance and movement styles related to theatre productions.
Prerequisite: DAN 1135.
- DAN 3380 Travel Study in Dance (1-3)**
Supervised study of dance through travel abroad or within the United States.
May be repeated for credit.
Prerequisite: Permission of instructor.
- DAN 3389 Creative Project Conception (1)**
Part one of a two-part creative process, this course gives students a practical opportunity, working closely with faculty, to conceive, propose, and plan for the presentation of their project: any faculty-approved creative venture focused on the art of dance.
Prerequisite: Junior status and DAN 2289.

- DAN 4400 Repertory Ensemble (1)**
Designed for auditioned members of the TROY Dance Repertory Ensemble.
Prerequisite: Audition or invitation.
- DAN 4410 The History of Ballet (3)**
A survey of ballet history from the 16th century through the Balanchine era, focusing on the rise of ballet as a communicative art form.
Prerequisite: ENG 1102 passed with at least a "C"
Corequisite: DAN 2240
- DAN 4411 The History of Modern-Contemporary Dance (3)**
A survey of the purposes, functions, and manifestations of American and European dance forms from the beginning of the 20th century to the present. Dance History II covers the forerunners and pioneers of modern dance; avant-garde and post-modernists; and the artists of jazz, tap, Broadway, film, and current media, introducing dance students to the innovators, dancers, and choreographers responsible for shaping 20th and 21st century dance.
- DAN 4412 Contemporary Technique IV (2)**
For the Dance major. Study of pre-professional modern dance, including dynamic alignment, body/mind connection, and increased vocabulary with emphasis on artistry through the contemporary aesthetic. Students will focus on complex center and across the floor combinations with an emphasis on musicality and a greater understanding of anatomical alignment.
Prerequisite: Placement.
- DAN 4415 Ballet Technique IV (2)**
For the advanced major. Further development of technical skills in a semi-professional level ballet class, including dynamic alignment, body/mind connection, increased vocabulary, with emphasis on the qualities of self-expression and musicality, which enhance performance abilities.
Prerequisite: Placement.
- DAN 4440 Composition and Choreography II (3)**
Exploring movement and analytical study of the art of making dances at the advanced level. Concentration on the four basic elements of composition—space, shape, time, and energy. By Choreography II, students should be crafting full-length dances.
Prerequisite: DAN 3340 passing with a grade of C or higher.
- DAN 4478 Pedagogy for Contemporary Dance (2)**
A comprehensive study of the pedagogical skills required to plan and deliver an effective class for contemporary dance trends. Students will learn to identify goals, develop objectives, construct, and sequence class instruction with focused attention to phrasing, musicality, proper alignment, and injury prevention particular to trends studied.
- DAN 4480 Pedagogy for Ballet (2)**
A comprehensive study of the pedagogical skills required to plan and deliver an effective classical ballet class. Students will learn to identify goals, develop objectives, construct, and sequence the ballet class with focused attention to phrasing, musicality, proper alignment, and injury prevention.
- DAN 4489 Creative Project Presentation (2)**
Part two of a two-part process, this course is designed to give students practical autonomy over the preparation, production, and presentation of the creative project begun in DAN 3389.
Prerequisite: Senior status and DAN 3389.
- DAN 4494-94 Guided Independent Study (1-3)**
Information is indexed under Independent Study and Research.

DATA ANALYTICS COURSES (DA)

- DA 4410 Business Data Mining (3)**
This course introduces the history, concepts and practices of extracting information from large databases to support business decisions using descriptive, prediction, and prescriptive analytics. The course covers various analytical techniques to turn data into information beginning with data preparation and exploration and then using a number of well-defined data mining tasks such as classification, regression, and clustering.
Prerequisites: Lower-level core.
- DA 4415 Big Data Analytics and Visualization (3)**
This course introduces best practices of data analytics to create a more competitive and profitable organization. Students will learn how Big Data interacts with business, and how to apply data analytic methodologies to create value for an organization. The course includes hands-on applications of sophisticated data-analysis functions and methodologies to real world data sets with cutting edge software and tools. The course also includes business cases of how the leading digital companies embrace big data culture and the use of data analytic techniques to out-compete rivals in their industry and to be more profitable than traditional companies in the global business environments. This course is a capstone course for the Global Business-Data Analytics concentration.
Prerequisites: Department Chair approval.
- DA 4440 Business Data Mining II (3)**
This course is an advanced course in data mining. Data mining concepts are extended from Business Data Mining I to include additional models and advanced applications of the models previously introduced, such as sentiment analysis and neural networks. Emphasis is placed on working with larger data sets and the entire cycle of a data analytics project.
Prerequisites: DA 4410.

EARLY CHILDHOOD EDUCATION (ECE)

- ECE 3315 Assessment in ECE (3)**
Child observation, documentation, and other forms of assessment central to the practice of all early childhood professionals will be presented. The goals, benefits and uses of assessment will be studied. Systematic observations, documentation, and other effective assessment strategies used in a responsible way, in partnership with families and other professionals, to positively influence the development of every child will be explored.
Prerequisite: Admission to TEP.
- ECE 3325 Child Growth & Development (Birth to 8 years) (3)**
The purpose of this course is to provide candidates a child development knowledge base. Candidates will use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for each child. This course will include a minimum of 15 hours of clinical field experience in a child care setting.
Prerequisite: Admission to TEP.
- ECE 3340 Language Acquisition (3)**
The purpose of this course is to assist candidates as they investigate and construct an operational knowledge of young children's language and literacy acquisition. A wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child's development and learning will be explored.

This course includes 15 hours of clinical field experiences where students interact with diverse learners through observation and participation in the application of appropriate language and literacy experiences, including technology.
Prerequisite: Admission to TEP.

ECE 3385

Primary Math & Science (3)

The purpose of this course is to assist candidates as they investigate and construct an operational knowledge of young children's construction of logico-mathematical and physical knowledge. This course includes 15 hours of clinical field experiences where students interact with diverse learners through observation and participation in the application of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child's development and learning.
Prerequisite: Admission to TEP.

ECE 3391

Social Studies; Community & Family (3)

This course prepares candidates to understand that successful early childhood education depends upon partnerships with children's families and communities. Knowledge, understanding, and valuing the importance and complex characteristic of children's families and communities will be used to create respectful, reciprocal relationships that support and empower families, and involve families in their children's development and learning. A minimum of 15 hours of clinical field experience will be required.
Prerequisite: Admission to TEP.

ECE 4401

Integrated Program (3)

This course is designed to prepare early childhood majors to use their knowledge of academic disciplines to design, implement and evaluate experiences that promote positive development and learning for each and every young child. The essential concepts, inquiry tools, and structure of content areas, including academic subjects, and resources to deepen their understanding will be explored. A minimum of 15 hours clinical field experience is required.
Prerequisite: Admission to TEP.

ECE 4454

Internship Seminar for Early Childhood Education (3)

This course provides seniors an opportunity during internship to examine broad educational issues and concerns, topics on the state and local levels and those of personal interest. The scope of the course ranges from juvenile law, classroom management professionalism, professional development for teachers and other course topics.
Prerequisite: admission to TEP;
Co-requisite: ECE Internship.

ECE 4474

Internship in Early Childhood Education (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: ECE 4454.

DEVELOPMENT COURSES (ECD)

ECD 3362

Applied Spatial Analysis for Business (3)

This introductory course prepares students to become decision makers able to analyze business data, both internal and external, from a spatial perspective utilizing geographic information systems software.

ECONOMIC COURSES (ECO)

ECO 1150

Survey of Economics (3)

This course is a study of commerce and economics and their impact on society, technology, and business. This course will cover basic commerce and economics terminology and concepts important to managers.

ECO 2251

Principles of Macroeconomics (3)

Macroeconomic theory of the national economy with emphasis on income, employment, banking, and public policy.

ECO 2252

Principles of Microeconomics (3)

Microeconomic theories of value, production, distribution of income, and basic international economic analysis.

ECO 2253

Honors Principles of Macroeconomics (3)

Macroeconomics theory of the national economy with emphasis on income, employment, banking and public policy for the superior student.
Prerequisite: SCOB Honors Student/permission of the Associate Dean.

ECO 2254

Honors Principles of Microeconomics (3)

Microeconomic theories of value, production, distribution of income, and basic international economic analysis for the superior student.
Prerequisite: SCOB Honors Student/permission of the Associate Dean.

ECO 3351

Honors Intermediate Macroeconomics (3)

Study of the variables affecting employment, income, and prices. Monetary theory and theories of fluctuation are reviewed. Policies dealing with economic stabilization are examined. This course is designed for Sorrell Global Scholars honors students.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ECO 2251 or ECO 2253.

ECO 3351

Intermediate Macroeconomics (3)

Study of the variables affecting employment, income, and prices. Monetary theory and theories of fluctuation are reviewed. Policies dealing with economic stabilization are examined.
Prerequisite: ECO 2251.

ECO 3352

Intermediate Microeconomics (3)

Study of price and distribution theory as it relates to households, firms, and industries. Theories of factor prices and general equilibrium are also examined.
Prerequisite: ECO 2252.

ECO 3353

Money and Banking (3)

Principles of money, credit, and banking including monetary systems, theories, and commercial banking operations related to the Federal Reserve System.
Prerequisite: ECO 2251 and ECO 2252.

ECO 3354

Honors Intermediate Microeconomics (3)

Study of price and distribution theory as it relates to households, firms, and industries. Theories of factor prices and general equilibrium are also examined.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ECO 2252 or ECO 2254.

ECO 3355

Labor Economics (3)

Employment, unionism, labor-management relations and human capital.

INTERNATIONAL ECONOMIC

- Prerequisite: ECO 2252.*
- ECO 3360 Entrepreneurial Economics (3)**
This course presents a wide-ranging overview of the place of entrepreneurship in economic theory, with a special focus on applications to institutions, organizations, strategy, economic development, and related fields. An emphasis on historical pieces on the economics of entrepreneurship as well as modern applications will be studied.
Prerequisites: ECO 2251, ECO 2252.
- ECO 3361 Sports Economics (3)**
Sports Economics introduces essential core economic concepts and then develops them with examples and applications from the sports industry. The sections are devoted to illustrating prominent areas of economics: industrial organization, public finance, labor economics, and econometrics.
Prerequisites: ECO 2251, 2252.
- ECO 3362 Public Choice (3)**
Public choice applies economic tools and methodology to the study of public decision-making. The emergence of government, collective choice within government, effects of legislative structures on outcomes, the role of interest groups as compared to that of the median voter, rent-seeking, bureaucracy, regulation, the size and scope of government, and alternative forms of governance.
Prerequisites: ECO 2251, 2252.
- ECO 3363 Mathematical Economics (3)**
This course develops the mathematical treatment of theory of firm, household behavior, stabilization policy, growth theory, input-output analysis, and linear programming.
Prerequisites: ECO 2251, 2252, AND MTH 1125, or 2201.
- ECO 3365 History of Economic Thought (3)**
This course surveys the main schools in the history of the development of economic thought.
Prerequisite: ECO 2251, 2252.
- ECO 4434 International Economics (3)**
An advanced analysis of the principles underlying international trade and international finance. This course is for Economics Majors. Students who have taken ECO 4451 cannot take ECO 4434 for credit.
Prerequisite: ECO 2251 & ECO 3352.
- ECO 4450 Honors Economics Seminar (3)**
Current problems in economics. This course is designed for Sorrell Global Scholars honors students.
Prerequisite: Sorrell Global Scholars student or permission of Associate Dean; ECO 3351 and ECO 3352
- ECO 4451 Economics of Globalization (3)**
Principles underlying international trade and international finance.
Prerequisite: ECO 2252 & Lower-level core.
- ECO 4452 Environmental Economics (3)**
Theoretical and empirical examination of natural resource and environmental economics.
Prerequisite: ECO 2252.
- ECO 4453 Public Finance (3)**
An analysis of the principles underlying government expenditure and taxation programs presented from both a theoretical and a pragmatic perspective.
Prerequisite: ECO 2252.
- ECO 4454 Economic History: The Rise of the Western World (3)**
A study of the institutional factors that contributed to the Western world's economic growth.
Prerequisite: ECO 2251, 2252 and one introductory HIS course.
- ECO 4455 Comparative Economic Systems (3)**
An analysis of the economic systems of capitalism and socialism focusing upon how a multitude of specific nations in the Americas, Europe, and Asia, such as the United States, Mexico, Germany, Poland, Japan, and China, et al., arrange and conduct economic affairs in the 21st century.
Prerequisite: ECO 2251 or 2252.
- ECO 4456 The Economics and Moral Foundations of Capitalism (3)**
A study of the interrelationship between markets and morals. Investigates the role ethics and ethical ideas play in understanding economic life.
Prerequisite: ECO 2251, 2252.
- ECO 4457 Econometrics (3)**
A study of the methods used to empirically verify economic theory. Statistical inference applied to economic models, both micro and macro.
Prerequisite: ECO 2251, 2252 and QM 2241, or SS 3376, or STAT 2210.
- ECO 4458 Law & Economics (3)**
An economic analysis of the legal system that explores the efficiency of different legal decisions.
Prerequisite: ECO 2251, 2252.
- ECO 4459 Economics Seminar (3)**
Current problems in economics.
Prerequisite: ECO 3351 and ECO 3352.
- ECO 4460 Regional and Urban Economics (3)**
The economics of cities and urban problems and the effects of geographic location on the decisions of individuals and firms. The importance of location in everyday choices is easily assessed from our day-to-day lives, yet traditional microeconomic models are spaceless.
Prerequisites: ECO 3351, 3352.
- ECO 4461 Austrian Economics (3)**
The historical and philosophical roots of the Austrian School, the impact it has had within the economics profession, and the unique insights it has provided in such areas as the theory of value, monetary theory, and business cycles.
Prerequisites: ECO 2251 and ECO 2252.
- ECO 4462 Game Theory (3)**
This course provides an introduction to game theory with applications to economics. Moreover, the course presents an approach to modeling a social situation as a game and develops techniques for solving the game in order to gain insight to individual behavior.
Prerequisites: ECO 2251, 2252, AND MTH 1125, or 2201.
- ECO 4463 Honors Economics of Globalization (3)**
Principles underlying international trade and international finance.
Prerequisites: ECO 2252 and lower-level core and SCOB honors student.
- ECO 4499 Internship (3)**
The Economics Internship provides is a supervised work experience that provides students with the opportunity to gain applied work experience their field of study. Students with the opportunity to gain real-world experience in their field of study. Students are interviewed and selected by the individual companies offering the internship. This course may be repeatable and must comply with the SCOB internship policy. See the Economics division chair for details.
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- EDUCATION COURSES (EDU)**
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- EDU 2220 Introduction to International Education (3)**
This course is designed as a general introduction to

the field of international education, broadly defined. In addition to exploring educational structures, philosophies and curricula of selected countries outside of USA, students will examine educational issues, challenges, and outcomes from a global perspective. Prominent issues related to education, including history, cultural traditions, politics, globalization, poverty, gender issues, and the legacy of colonization will be examined and discussed. Students will also explore and compare US education with the educational systems and contests of other countries.

EDU 2230 Fundamentals of Teaching (3)

The course is designed for students who are interested in pursuing careers in education. It will include in-depth coverage of significant components of the teaching profession, to include lesson development and planning, classroom management, educator dispositions, and curriculum implementation.

EDU 3303 Educational Psychology and Classroom Assessment (3)

Characteristics of the learner and the teaching-learning process. Theories of learning, instruction, and motivation, and their application to students in grades P-12.

EDU 3305 Teaching with Technology (3)

This course is designed to introduce prospective teachers to currently available technology and to prepare them to use various media for their own education as well as in their professional careers. Students are expected to become comfortable in the use of various media and to explore the possibilities for the use of media in the classroom. Emphasis is given to ways in which multimedia can be used to meet the needs of the varying learning styles.

EDU 3308 Integrated STEM (3)

Science, technology, engineering, and mathematics (STEM) literacy is a critical component of 21st century education. The central tenet of STEM literacy is the preparation of people who are knowledgeable of the connections between the content and practices of the STEM fields. This course will foster students' abilities to teach in an integrative way through real world design based problems that both stimulate and teach students to think critically.

Note: should be taken semester prior to internship
Prerequisites: admission to TEP; must have taken or be concurrently enrolled in ELE 3361, ELE 3362.

EDU L308 Integrated STEM Lab (1)

Science, technology, engineering, and mathematics (STEM) literacy is a critical component of 21st century education. The central tenet of STEM literacy is the preparation of people who are knowledgeable of the connections between the content and practices of the STEM fields. This course will foster students' abilities to teach in an integrative way through real world design based problems that both stimulate and teach students to think critically.

Note: should be taken semester prior to internship
Prerequisites: admission to TEP; must have taken or be concurrently enrolled in ELE 3361, ELE 3362

EDU 3310 Introduction to Education (3)

This course provides a broad overview of education, teaching and schools, and an orientation to the Teacher Education Program. Multiple field experiences in school settings are required as part of the course.

This is a prerequisite course for most other education courses.

EDU 4400 Classroom Management (3)

This course is designed for all education majors. The purpose of this course is to establish a foundation of content and application relative to classroom management and discipline, emphasizing reflection, decision making, and integrated teaching/learning strategies. Methodologies utilized will include discussion, lecture, field experience, case studies, problem solving sessions, projects, and research.

EDU 4471 Curriculum and Instructional Delivery (3)

This course offers a survey of school curricula, organizational patterns for school systems and classrooms. It is designed for Early Childhood Education, Elementary Education, Special Education, and Middle and Secondary Education majors. Various instructional strategies, major philosophies and learning theories are examined.
Note: should be taken semester prior to internship.
Prerequisite: admission to TEP.

EDU 4476 Internship in Elementary/K-6 Collaborative Teacher (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of an informed, reflective decision maker throughout the internship experience.

Prerequisite: TEP Admission

Co-requisite: ELE 4454

EDU 4477 Internship in Elementary/K-6 Collaborative Teacher (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes in both SPE K-6 and SPE 6-12 classrooms, and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of an informed, reflective decision maker throughout the internship experience.

EDU 4478 Math/Science/STEM Practicum (3)

The practicum is designed to provide a supervised experience related to instruction in the areas of mathematics, science and STEM education. A diverse set of concepts, skills, and pedagogical practices pertaining to these three core areas will be emphasized in the field in conjunction with co-requisite coursework. The application of current research and evidence based mathematical, science, and STEM instructional practices will be hallmarks of the practicum experience.

Prerequisite: Admission to TEP.

EDU 4490 Global Identity (1-3)

Studying abroad is a transformative experience that has the power to challenge our thinking and our perspective on the world. This course aims to attract students across disciplines, to promote interprofessional development, and to prepare them to expand their understanding of their global identity and communicate their growth in intercultural competence toward their personal and professional development. Students make connections between their study abroad experience and the broader range of skills connected with this experience, to become a competitive member of a global workforce.

EDU 4491-92 Guided Independent Research (1 to 3 credit hours)

Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.

Prerequisites: junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."

EDU 4493-94 Guided Independent Study (1 to 3 credit hours)

Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.

Prerequisites: junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

**ELECTRONIC ENGINEERING
TECHNOLOGY (EET)**

EET 2220 Electrical Circuits I (3)

This course primarily deals in providing a thorough understanding of the fundamental concepts of DC (Direct Current) circuits such as current, voltage, resistance, Ohm's Law, Power and Energy, series and parallel circuits, methods of circuit analysis and network theorems. Basics in magnetism and electromagnetism is also covered. Also, a circuit simulation tool is introduced and used to build and test DC circuits.

Co-requisite: EET L220

EET L220 Electrical Circuits I Lab (1)

This course acquaints the concepts of the topics related to DC circuits learned in lecture through hands-on experiments and simulations.

Co-requisite: EET 2220

EET 2221 Electrical Circuits II (3)

This course is a continuation of EET 2220. This course primarily deals with introduction to AC (Alternating Current), the laws and concepts which describe the behavior of AC circuits. Topics related to the introduction to capacitors, inductors followed by their behavior in RL, RC and RLC circuits is analyzed using circuit theories. Transformer theory is also introduced and covered. A circuit simulation tool is used to build and test AC circuits and to demonstrate the use of an oscilloscope.

Prerequisite: EET 2220

Co-requisite: EET L221 and MTH 1112 or higher math course

EET L221 Electrical Circuits II Lab (1)

This course acquaints the theoretical models and concepts of the topics learned in lecture through hands-on experiments and simulations.

Co-requisite: EET 2221

EET 3311 Electronic Devices I (3)

This foundational course familiarizes the theory and concepts of modern solid-state devices by introducing the fundamental concepts of P-N junction diodes, Bipolar Junction Transistors (BJT), and Field-Effect Transistors (FET). Also, diode and transistor related circuits along with the biasing AC

models are covered. Emphasis is placed on their characteristics and applications, such as rectifiers and amplifiers. Circuit simulation software is used to design and analyze basic diode and transistor circuitry.

Prerequisites: EET 2221, EET L221

Co-requisite: EET L311 and MTH 1114 or higher math course.

EET L311 Electronics Devices I Lab (1)

This course acquaints the theory and concepts of diode, transistors and FET transistor topics learned in lecture through hands-on experiments and simulation.

Co-requisite: EET 3311

EET 3312 Electronic Devices II (3)

This course is the second in a two-part sequence on electronic devices, a continuation of EET 3311.

Building on the principles of diode and transistor operations, this course covers the topics including power amplifiers, emitter followers, differential amplifiers, operational amplifiers and other special purpose devices. Working and operation characteristics of JFETs and MOSFETs are also introduced. Frequency response, system applications and troubleshooting are also emphasized.

Prerequisites: EET 3311.

Co-requisite: EET L312 and MTH 1125 or higher math course.

EET L312 Electronic Devices II Lab (1)

This course acquaints the theory and concepts of the topics learned in lecture through hands-on experiments and simulations.

Co-requisite: EET 3312

EET 3315 Digital Logic Circuits (3)

This is an introductory course to the fundamentals of digital electronics. Topics covered include number systems, codes, logic gates, Boolean Algebra, combinational logic systems design, flip-flops, counters and registers. Advanced concepts in combinational circuits, decomposition of switching functions, modular realization of switching circuits, sequential functions and circuits, and memory elements are also covered.

Prerequisites: EET 3311

Co-requisites: EET L315 and MTH 1126 or higher math course.

EET L315 Digital Logic Circuits Lab (1)

This course is focused on hands-on experimentation, design, analysis and verification of digital circuits. The lab topics include but are not limited to gate logics, adders, multiplexer/de-multiplexer, and counters. Students will also learn to use various devices to build and to test digital circuits. Digital circuits are also implemented using circuit simulation software.

Co-requisites: EET 3315.

EET 3320 Measurement and Instrumentation (3)

Topics covered include fundamental of units systems, precision and accuracy, errors in measurement and types of errors, electromechanical instruments, DC ammeters and voltmeters, AC ammeters and voltmeters, electrodynamicometers in power measurements, bridge DC measurements, bridge AC measurements, transducers concepts and types, oscilloscope principles and applications in measurements.

Prerequisites: EET 2215, EET L215.

EET 4410 Signal Processing (3)

Topics covered include fundamental of units systems, precision and accuracy, errors in measurement and types of errors, electromechanical instruments, DC ammeters and voltmeters, AC ammeters and voltmeters, electrodynamicometers in

- power measurements, bridge DC measurements, bridge AC measurements, transducers concepts and types, oscilloscope principles and applications in measurements.
Prerequisites: PHY 3320.
- EET 4420 Fundamentals of Microcontrollers**
This course is the first course in a two-part sequence. Topics covered include but are not limited to microcontroller architecture, instruction sets, programming and interfacing with electronic circuits, interrupts, microcontroller peripherals, microcontroller application development tools and platforms.
Prerequisites: EET 3315, EET L315.
Co-requisites: EET L420.
- EET L420 Fundamentals of Microcontrollers Lab (1)**
This course is focused on design, implementation and debugging of microcontroller based systems. Students will also learn about timers, ADC, wave generators, RC measurement etc. The course also has a project where students are expected to build and implement a microcontroller.
Co-requisite: EET 4420.
- EET 4421 Introduction to Robotics and Automation (3)**
This course is the second course in a two-part sequence. This course primarily deals in providing a thorough introduction to robotics and its applications in task automation. Students will get a chance to gain knowledge related to development of robots, different working models of robots, selection of appropriate sensors to a specific application, and programming a certain robot to perform the desired task. Projects may include construction and programming of mobile robots, assembly and test of individual components.
Prerequisites: EET 3315, EET L315, EET 4420 and EET L420.
Co-requisite: EET L421.
- EET L421 Introduction to Robots and Automation Lab (1)**
This course acquaints the theory and concepts learned in lecture through the hands-on construction of sensor circuitry and building robots. Students will learn to use DC motors and the motor controllers, sensors, transistors and diode circuitry etc. Also, students get a chance to integrate the sensor and mothers to the microprocessors.
Co-requisite: EET 4421.
- EET 4425 Data Communication and Networking (3)**
Topics covered include but are not limited to microcontroller architecture, instruction sets, programming and interfacing with electronic circuits, interrupts, microcontroller peripherals, microcontroller application development tools and platforms.
Prerequisites: EET 3315, EET L315.
- EET 4435 LSI/VLSI Design (3)**
MOS Transistors – fabrication and characteristics. MOSFET scaling and short-channel effects. Layer representation and layout rules. Analysis and design of inverters and inverter based circuits. Circuit and interconnection delays, driving large loads. Dynamic logic circuits. Memories, VLSI design strategies – Full custom, Standard Cell and Gate Array design, FPGAs, Subsystem design. Testing and testability. CAD for VLSI.
Prerequisites: EET 2215, EET 3315.
- EET 4440 Electronic Testing with Lab (4)**
Topics include, identifying and reading electronic circuit diagrams, using electronic test equipment to analyze circuits, applying a systematic approach to fault finding, and location a range of faults to component level.
Prerequisites: EET 2215, EET 3315.
- EET 4444 Optical Electronics I (3)**
This course is an introduction to the basics of electromagnetic waves. It also introduces to the fundamental concepts and principles of optics, optical waveguides and devices. Next, the course talks about the introduction to optoelectronics, Gaussian beam propagation, interaction of light and matter, spontaneous and stimulated emission, laser rate equations.
Prerequisites: EET 3312
Co-requisite: EET L444
- EET L444 Optical Electronics I CAD Lab (1)**
This course acquaints the theory and concepts learned in lecture through the hands-on computer aided design and simulation experiments.
Co-requisites: EET 4444
- EET 4445 Optical Electronics II (3)**
This course is the second in a two-part sequence on optoelectronics, a continuation of optoelectronics I. This course provides the advance concepts in semiconductor optics and optoelectronics devices. Topics include the introduction to the light emitting devices, detectors, and modulators. Course also introduces the basic optical, electro-optical and nonlinear properties of semiconductors, semiconductor lasers, optical detectors, amplifiers, modulators and switches. Most importantly, this course helps students to meet the demand of growing semiconductor optoelectronic industry and prepares them to advanced study and research in the semiconductor optics and optoelectronic devices.
Prerequisites: EET 4444
Co-requisite: EET L445
- EET L445 Optical Electronics II CAD Lab (1)**
This course acquaints the theory and concepts learned in EET 4445 through the hands-on computer aided design and simulation experiments.
Co-requisite: EET 4445
- EET 4480 Senior Project I Capstone (3)**
This is the first of a two-semester sequence of Capstone course for all EET majors. It provides students with unique opportunity to put together the knowledge and skills developed in his/her curriculum in the design and implementation of a project that culminates in a working solution. The project may be multidisciplinary or oriented toward a single engineering technology discipline. The student is expected to develop a working prototype, required to work on final project report and a formal oral presentation. The project may involve a team of students from more than one discipline, or a student may choose to work alone on a project. The project must be approved by a department faculty.
Prerequisites: Permission of Instructor.
- EET 4481 Senior Project II Capstone (3)**
This is the second of a two-semester sequence of Capstone courses for all EET majors. The course permits students to complete the project which was initiated in EET 4480.
Prerequisites: Permission of Instructor.
- EET 4490 Travel Study in Electronics Engineering Technology (1-3)**
Supervised investigation of relevant topics in Electronics Engineering Technology through travel study abroad or within the interior of the United States.
- EET 4497 Independent Study in EET (1-4)**
Independent study for students under the direction of a faculty member.
Prerequisite: Permission of department chair.
- EET 4498 Internship in Electronics Engineering Technology (1-3)**
Supervised work experience in the biotechnology industry, governmental agency, business, or other working environment in which a student will learn and apply pertinent professional skills.

**ELEMENTARY EDUCATION COURSES
(ELE)**

- ELE 3360 Teaching Social Science (3)**
This course provides a study of the varied dimensions of instruction in social sciences. Emphasis is placed on appropriate instruction and resources, including technology for the instruction of students in grades K-6.
Prerequisite: admission to TEP.
- ELE L360 Teaching Social Science Lab (1)**
This course includes Lab/Field-oriented experiences designed to enhance understanding of varied dimensions of instruction in social sciences.
Prerequisite: admission to TEP.
- ELE 3361 Teaching Natural Science (3)**
This course provides a study of the varied dimensions of instruction in natural sciences. Emphasis is placed on appropriate instruction and resources, including technology for the instruction of students in grades K-6.
Prerequisite: admission to TEP.
- ELE L361 Teaching Natural Science Lab (1)**
This course includes Lab/Field-oriented experiences designed to enhance understanding of varied dimensions of instruction in natural science.
Prerequisite: admission to TEP.
- ELE 3362 Teaching Mathematics (3)**
This course provides a study of the varied dimensions of instruction in mathematics. Emphasis is placed on appropriate instruction and resources, including technology for the instruction of students in grades K-6.
Prerequisites: admission to TEP, completion of MTH 2251 or MTH 2252 with a grade of C or better.
- ELE L362 Teaching Mathematics Lab (1)**
This course includes Lab/Field-oriented experiences designed to enhance understanding of varied dimensions of instruction in mathematics.
Prerequisites: admission to TEP, completion of MTH 2251 and 2252 with a grade of C or better.
- ELE 4454 Internship Seminar for Elementary Education (3)**
This course provides seniors an opportunity during internship to examine broad educational issues and concerns, topics on the state and local levels and those of personal interest. The scope of the course ranges from juvenile law, classroom management professionalism, professional development for teachers and other course topics.
Prerequisite: admission to TEP.
Co-requisite: ELE Internship.
- ELE 4474 Internship in Elementary Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: ELE 4454.
- ELE 4481 Methods and Materials for the Elementary Teacher (3)**
Teaching methods, selection, organization and use of materials and resources in the elementary school discipline(s). Observation and teaching experiences will be included.

Prerequisite: EDU 3310 and admission to TEP.

- ELE 4491-92 Guided Independent Research (1 to 3 credit hours)**
Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.
Prerequisites: junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."
- ELE 4493-94 Guided Independent Study (1 to 3 credit hours)**
Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

ENGLISH COURSES (ENG)

- ENG 0096 Fundamentals of Grammar and Sentence Writing (3)**
Developmental/remedial instruction in the basic elements of standard American English grammar, with an introduction to the essentials of effective written communication. Involves application of appropriate computer software. Students are placed in this course, ENG 1100 or ENG 1101, depending on placement exam score; see the local campus testing center for specific cut-off scores. Students may also be required to attend weekly sessions at a writing and/or computer center.
Note: Under no circumstance may this course be used to substitute for any general studies requirement; nor may it be used to meet minimum degree requirements. Grade of C or better and successful completion of exit exam required.
- ENG 1100 Preparatory English (3)**
Developmental/remedial instruction in composition and mechanical skills needed to write clear, effective sentences and paragraphs. Involves application of appropriate computer software and a variety of written activities. Students are placed in this course, ENG 0096, or ENG 1101 depending on placement exam score; see the local campus testing center for specific cut-off scores. Students may also be required to attend weekly sessions at a writing and/or computer center.
Note: Under no circumstances may this course substitute for any general studies requirement; nor may it be used to meet minimum degree requirements. Grade of C or better required.
- ENG 1101 Composition And Modern English I (3)**
Intensive instruction in the writing process. Focuses on organization of ideas in well-developed expository and argumentative essays (usually six to eight essays), with stress on grammar, punctuation, and vocabulary development. A grade of C or better is required for credit. Must be completed within first 30 hours of enrollment.
Prerequisite: Placement Testing.

- ENG 1102 Composition and Modern English II (3)**
Text-based analyses and application of principles and tools of research in writing short research papers. A grade of C or better is required for credit. Must be taken within first 30 hours of enrollment.
Prerequisite: ENG 1101 or equivalent.
- ENG 1103 Honors English Composition I (3)**
Introductory study and practice of composition for the superior student.
Prerequisite: Minimum English score of 27 on the ACT or 640 on the SAT, or recommendation by an 1101 instructor.
- ENG 1104 Honors English Composition II (3)**
Continuation of study and practice of composition for the superior student.
Prerequisite: Minimum grade of C in ENG 1103 or recommendation by a 1101 or 1102 instructor.
- ENG 2205 World Literature before 1660 (3)**
Introduction to attitudes, philosophies, and reflections of life in world literary masterpieces from the ancient world, Middle Ages, and Renaissance. Requires demonstration of acceptable writing skills.
Prerequisite: ENG 1102 or equivalent.
- ENG 2206 World Literature after 1660 (3)**
Introduction to attitudes, philosophies, and reflections of life in world literary masterpieces from the Enlightenment to the present. Requires demonstration of acceptable writing skills.
Prerequisite: ENG 1102 or equivalent.
- ENG 2207 Honors World Literature before 1660 (3)**
A course for the superior student, focusing on representative selections of the world's dramatic masterpieces in prose and poetry.
Prerequisite: ENG 1104 or permission of department chair.
- ENG 2208 Honors World Literature after 1660 (3)**
A course for the superior student, focusing on representative selections of the fictional masterpieces in Western literature.
Prerequisite: ENG 1104 or permission of department chair.
- ENG 2211 American Literature before 1875 (3)**
Study of works of selected writers in various American traditions and styles from colonial times to 1875.
Prerequisite: ENG 1102 or equivalent.
- ENG 2212 American Literature after 1875 (3)**
Study of works of selected writers in various American traditions and styles from 1875 to the present.
Prerequisite: ENG 1102 or equivalent.
- ENG 2244 British Literature before 1785 (3)**
A survey of British literature from its beginning to 1785.
Prerequisite: ENG 1102 or equivalent.
- ENG 2245 British Literature after 1785 (3)**
A survey of British literature from 1785 to the present.
Prerequisite: ENG 1102 or equivalent.
- ENG 2260 Introduction to Technical and Professional Writing (3)**
Technical communications for science, business, and professional work. Emphasis on writing for specific purposes to particular audiences in an organizational setting. Preparation of documents such as technical description of a mechanism or process, instructions, recommendations, reports, and resumes.
Note: course is a prerequisite for all required 3300 and 4400-level courses in the Professional Writing Emphasis. Students may take elective courses concurrently with this course.
- ENG 3301 Women's Literature (3)**
Representative works of literature by women.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3305 Folklore/Mythology (3)**
A multicultural survey of the forms and varieties of the mythology and folklore of major western cultures, emphasizing stories of Scandinavian, German, British, and American origin, and the application of these forms in modern cultures and literature. This course is recommended for English teachers seeking middle school certification.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3310 Fiction and Film (3)**
Representation of fiction on film, with attention to visual techniques and the translation and representation of major literary themes.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3315 Modern Drama (3)**
Study of plays written between 1900 and the present. List of plays may vary with each offering.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3320 Introduction to Linguistics (3)**
Overview to linguistics, the scientific study of language. The course will acquaint students with the grammatical, social, biological, and technological applications of language.
Prerequisites: ENG 1101, 1102.
- ENG 3326 Science Fiction (3)**
An exploration of the literary, social, and generic importance of science fiction.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3330 Introduction to Digital Humanities: A Literary Perspective (3)**
This course offers students a basic introduction to the concepts, tools, and techniques of Digital Humanities (DH) geared toward applications in writing, literary and cultural studies. The course borders on the intersectionality of literature, in particular, and the humanities in general, with innovations in technology.
- ENG 3333 Health, Medicine and the Humanities: The Intersectionality of Health Literature (3)**
This course focuses on a study of texts and films by, for, and about health care providers, medical practitioners and patients from various global cultures in order to investigate the intersectionality of the humanities, medicine and health as a whole. We will explore how literature and motion pictures interact with communicable, non-communicable diseases, mental illnesses and other public health concerns paying particular attention to how language is used by both healthcare providers and recipients across cultures. The goal is to show that even though medicine and healthcare are within the sciences, at their very nucleus is the humanities.
- ENG 3341 Advanced Grammar I (3)**
Detailed study of the structural system of English grammar.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3345 Technical and Professional Editing (3)**
Principles and practices of editing technical and scientific documents. Overview of the editing process; defining the editor's rules and responsibilities, revising at structural and sentence levels, and addressing stylistic conventions of technical fields. Includes technical and scientific documents such as reports, proposals, and user manuals.

- Prerequisite: ENG 2260 or permission of instructor.*
- ENG 3351 Introduction to Creative Writing I (3)**
Practice in writing poetry, short stories, and/or plays, along with a concentrated study of the techniques and principles of creative writing in each genre.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3352 Advanced Creative Writing I (3)**
Continued practice in writing poetry, short stories, and/or plays, along with a more advanced study of the techniques and principles of creative writing in each genre.
Prerequisite: six semester hours of 2000-level English courses; ENG 3351 or permission of instructor.
- ENG 3353 Advanced Creative Writing II (3)**
Practice in writing poetry, short fiction, or plays for class and instructor evaluation.
Prerequisite: six semester hours of 2000-level English courses; ENG 3351 or permission of instructor.
- ENG 3354 Advanced Nonfiction Writing (3)**
The literature of fact. Emphasis on student writing and analysis of nonfiction forms, such as personal narrative, autobiography, lyric in prose, and New Journalism.
Prerequisite: six semester hours of 2000-level English courses; ENG 3351 or permission of instructor.
- ENG 3355 Verse Writing (3)**
Development of techniques in the practice of poetry, including expression through metrical patterns, rhyme, rhythm, imagery, metaphor, and symbolism.
Prerequisite: six semester hours of 2000-level English courses; ENG 3351 or permission of instructor.
- ENG 3356 Form and Theory of Fiction (3)**
Primarily a reading course for writers. Examination of the classic texts of literary theory; analysis of the use and purpose of the elements of fiction; and discussion of fiction form, from the short-short to hyper-text.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3357 Form and Theory of Nonfiction Literature (3)**
Examination of the theories behind various forms of nonfiction literature, whether autobiography, biography, the essay, diaries, and/or travel writing, with special emphasis on the historical evolution of a particular form. List of readings will vary with each course offering.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3362 The Arthurian Legend through the Ages (3)**
Examination of Arthur not only in literary and historical works from its earliest traces in the Middle Ages to the present, but also in archaeology, the visual and decorative arts (especially painting and sculpture), manuscript decoration, film, musical, and opera.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 3365 Advanced Technical & Professional Writing (3)**
Study of technical communication as a dynamic process in organizational and social environments, including the manner in which organizational hierarchies, purposes, and stylistic conventions interact with the writing process. Professional literature and professional associations concerned with improving communications within students' disciplines.
- Prerequisite: ENG 2260 or permission of instructor.*
- ENG 3366 Professional Document Design (3)**
Overview of the fundamental concepts and techniques of information design and production for both print and online documents, including the coordination of text, typography, and graphics; principles of audience analysis, usability, and readability; and an introduction to computer software for desktop publication and web design.
Prerequisite: ENG 2260 or permission of instructor.
- ENG 3371 Literature for Adolescents (3)**
Principles of and practice in the selection of literature for upper-elementary and for junior and senior high school students, with attention given to multicultural literature.
Note: No credit toward English major or minor. Credit applied only to middle school education certification program in English. Prerequisite: six semester hours of 2000-level English courses.
- ENG 3380 Sociolinguistics: Language, Culture and Society (3)**
The study of the relations of language to culture and society, inclusive of regional, social, and stylistic variation, as well as gendered discourse. The course will introduce students to the socio-cultural factors in language varieties.
- ENG 3385 Foundations of Second Language Acquisition (3)**
Learning theory, acquisition barriers, various methodologies, communicative approaches and competence, and applied linguistics, including the practical issues of L2 learning.
- ENG 4400 Selected Topics in Literature and/or Professional Writing (3)**
Study of a topic of special interest and importance not covered in regularly offered courses in English.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4401 Chaucer (3)**
Study of Chaucer's major poetry.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4402 Studies in Medieval Literature (3)**
Study of non-Chaucerian British literature from the Middle Ages, including Beowulf, Piers Plowman, Sir Gawain and the Green Knight, mystery plays, Le Morte d'Arthur, and other works.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4403 English Renaissance Literature (3)**
English prose and poetry of the 16th and 17th centuries with an emphasis on Sidney, Spenser, Donne, and Jonson.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4404 Milton (3)**
Milton's poetry and major prose.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4405 History of the English Language (3)**
Study of the development of English from the Anglo-Saxon period through the present, with reference to the Indo-European background of English.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4406 Studies in British Literature Before 1660 (3)**
Selections from Medieval and/or Renaissance British literatures, including classical, historical, and cultural background.

- Prerequisite: six semester hours of 2000-level English course.*
- ENG 4407 Fantasy Literature (3)**
This course will introduce the student to a wide range of Fantasy literature from the Middle Ages to Modern times. This course will discuss allegory and other subgenres that use fantastic elements that alter reality as we know it in order to concentrate on a very real problem in the human condition, especially when no better way exists for an author to make the point.
Prerequisites: Six semester hours of 2000-level English courses.
- ENG 4410 Studies in Eighteenth-Century British Literature (3)**
Selections from Restoration and 18th-century British literature and its historical and cultural background.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4413 Studies in Nineteenth-Century British Literature (3)**
Study of Romantic and/or Victorian literatures.
Prerequisite: six semester hours of 2000 level English courses.
- ENG 4414 British Novel Before 1900 (3)**
Representative novels by British writers of the 18th and 19th centuries.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4415 American Renaissance (3)**
Selections from the major writers of the American literary renaissance, including such writers as Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson.
Prerequisite: six semester hours of 2000-level English courses.
- ENG 4416 Nineteenth-Century American Novel (3)**
Study of representative American novels of the 19th century.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4417 Modern Short Story (3)**
Examination of 20th and 21st century short stories. List of stories may vary with each offering.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4418 British Culture on Location (3)**
An intensive presentation of British culture on-site in London, Oxford, and other important British locations.
- ENG 4419 Advanced Writing (3)**
Provides students the opportunity to write, review, and evaluate texts relevant to the professions they plan to enter and to apply rhetorical analysis to specific writing situations.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4420 Selected Topics in Creative Writing (3)**
Study of a topic of special interest and importance not covered in regularly offered courses in creative writing.
Prerequisites: Six semester hours of 2200-level English courses; ENG 3351 or permission of instructor. Note: may be taken for credit no more than two times.
- ENG 4421 English Novel (3)**
Selected 18th,
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4425 Modern Novel (3)**
Study of representative novels written in English in the 20th and 21st centuries.
- Prerequisites: Six semester hours of 2000-level English courses.*
- ENG 4426 Modern Poetry (3)**
Study of 20th- and 21st-century poetry.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4427 Contemporary American Literature (3)**
Examination of representative American literature from the postmodern period (1960-present), with special emphasis on the diversity of themes, styles, and cultural contexts influencing the literary marketplace. Course readings may vary with each offering.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4428 The Age of Johnson (3)**
A study of the works of Samuel Johnson and of his most important contemporaries, from about 1745 to 1798.
Prerequisite: Six semester hours of 2000-level English courses
- ENG 4430 Shakespeare I: The Tragedies (3)**
Study of major and minor tragedies, with some attention to non-dramatic poetry. List of plays may vary with each offering.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4431 Shakespeare II: The Comedies (3)**
Study of comedies and romances. List of plays may vary with each offering.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4432 Shakespeare III: The Histories (3)**
Study of history plays, especially those concerning Wars of the Roses. List of plays may vary with each offering.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4433 Literary Criticism (3)**
Study of the major literary critics and their works from classical times to the present.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4434 Romantic Period in English Literature (3)**
Romantic prose and poetry with emphasis on the writings of Blake, Coleridge, Wordsworth, Byron, Keats, and Shelley.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4435 The Bible as Literature (3)**
A detailed study of the literary components, composition techniques, and inclusion factors in selected works from the New and Old Testaments.
Prerequisite: Six semester hours of 2200-level ENG courses.
- ENG 4436 The Post-Cyberpunk, Post Colonial Science Fiction Novel (3)**
This course will examine works published after the age of "high cyberpunk," roughly post-1988, to examine how ideas about what it means to be a nation-state, a citizen, and a human and how such stable identifiers may undergo radical change in response to ecological and/or technological pressures in strange futures, alternative presents, and pasts that might have been to look at the post-colonial, post-cyberpunk novel.
Prerequisite: Six semester hours of 2000-level courses.

- ENG 4440 Literature and Gender (3)**
This course introduces students to the fluidity and constructed nature of gender in various genres of literature, both contemporary and classic. Students will read, discuss, and write critical about gender-related topics with a global perspective.
Prerequisite: Six credit hours of 2000-level English courses.
- ENG 4443 Southern Literature (3)**
Study of works by writers from the American South from colonial times to the present.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4445 Global Anglophone Literature (3)**
Introduces students to a variety of literary masterpieces that explore global writings in English by authors who are not from Europe and North America. This course will explore issues concerning the nativization of English, exile and migration, and the postcolonial concept of the “empire writing back” to its center.
Prerequisites: Six semester hours of 2000-level English courses.
- ENG 4452 Medieval and Renaissance English Drama (3)**
Survey of drama from the middle ages and Renaissance, excluding Shakespeare. Begins with brief study of folk and liturgical origins of drama, includes a few medieval mystery and morality plays, and features Renaissance plays by Heywood, Udall, Kyd, Marlowe, Beaumont, Fletcher, Jonson, and Webster.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4453 English Drama through the 18th Century (3)**
English drama (excluding Shakespeare) from the 9th through the 18th century.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4455 Multicultural Literature (3)**
A thematic study of minority American writers of various diasporic backgrounds. Works will include fiction and non-fiction by first/second generation immigrants in the United States including those of Native American People, in view of showing how they have contributed to the contemporary multicultural American landscape.
Prerequisites: Six semester hours of 2200-level ENG courses.
- ENG 4460 Victorian Poetry (3)**
A study of Victorian poetry, with emphasis upon the works of Tennyson, Browning, Arnold, and Hardy.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4461 Victorian Prose (3)**
A survey of the works of major Victorian prose writers, with emphasis upon the works of Carlyle, Newman, Mill, Ruskin, Arnold, and Pater.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4465 African American Literature (3)**
Study of the major African American writers from the beginning of American history to the present.
Prerequisite: Six semester hours of 2000-level English courses.
- ENG 4466 Advanced Grammar II (3)**
Advanced Grammar II: Descriptive constituent analysis of syntax in the context of generative grammar its relation to syntactic structures and to sentential meaning (semantics), including error/contrastive analysis, and to pragmatics and discourse analysis.
Prerequisite: ENG 3341
- ENG 4468 Methods and Approaches in Second Language Teaching (3)**
This course traces the evolution of language teaching from the methods era (e.g. grammar translation method, audio lingual method) to post-methods approaches (e.g., task-based learning, content-based learning, communicative approaches). Students will develop a repertoire of teaching approaches, and identify appropriate options for different language teaching scenarios.
- ENG 4470 Practicum and Assessments (3)**
Overview of assessments and application of skills, concepts and principles in supervised experiences related to teaching ESL students. The Practicum is required for the TESOL Certificate.
Prerequisite: ENG 4468
- ENG 4474 Internship in English/Language Arts Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454.
- ENG 4478 Theory and Practice of Composition: Writing and Learning Across the Curriculum (3)**
A study of the methodology of teaching English composition and practice in advanced writing
Prerequisites: Six semester hours of 2000-level English courses.
- ENG 4480 Literary Theory (3)**
This course examines the major schools of literary theory developed in the 20th century and beyond. Lectures and discussions explore theoretical perspectives on the recurrent questions: what is literature, how is it produced, how can it be understood, and what is its purpose? Readings in the course provide definitions and delineations grounded on linguistic, psychoanalytic, socio-economic, and historic utterances that distinguish literature from other epistemological and ontological texts.
Prerequisite: six semester hours of 2000-level courses.
- ENG 4481 Methods and Materials for the Secondary Teacher (3)**
A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of English language arts materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.
- ENG 4488 Seminar in Professional Writing Portfolio Development (3)**
Senior seminar. and development of a professional portfolio containing carefully selected materials that demonstrate seniors’ mastery of specific writing capabilities and skills.
Prerequisite: senior class standing, ENG 2260, and completion of at least three required courses and three electives in the major, or permission of instructor.

- ENG 4489 Internship (3)**
 Practical experience involving writing and editing skills while working under the supervision of the Alabama Literary Review staff.
Prerequisite: ENG 3352, 3353 or permission of instructor.
- ENG 4490 Professional Writing Internship (3)**
 Writing Practicum/Internship at a local industry, publisher, arts or public agency. Provides workplace experiences in solving problems in writing, including those of career preparation and development.
Prerequisite: ENG 2260, and completion of at least three required courses and three electives in the major, or permission of instructor.
- ENG 4491-94 Guided Independent Research and Study (3)**
 Thorough examination of material on a selected subject, requiring a documented research paper. Additional information indexed under "Guided Independent Research and Study."
Prerequisite: six semester hours of 2000-level English courses. Note: Students who need regimentation of regular classroom to do good academic work should not attempt these courses. Also see index for "Independent Study and Research."
- ENG 4495 Senior Seminar in English (3)**
 A senior-level course capstone designed to engage the student with the central questions of literary studies and to develop the student's skills in critical thinking and writing and in research. Must make a grade of C or better.
Prerequisite: senior status.
- ENG 4498-99 Honors Research and Writing (1 credit hour per course per semester)**
 The above courses are designed for outstanding students majoring in English. Taken collectively, they constitute the English upper-level honors program in which students may specialize in a selected area of literary study. Upon successful completion of all course work and other requirements, the student will be recognized as a graduate with English honors.
Prerequisite: junior or senior level, grade point average no less than 3.2 in English studies and completion of the English honors application procedure. Consult the department chair for additional information.

ENTREPRENEURSHIP (ENT)

- ENT 2200 Innovation and Creative Thinking (3)**
 What does it mean to be an innovative thinker? Is there a difference between being creative and thinking creatively? Innovation and Creative Thinking will provide students with the opportunity to discover their ability to think creatively through brainstorming, conceptual development, and play discovery.
- ENT 2210 Innovation by Design (3)**
 Innovation by Design will showcase innovative companies, ideas, people, and models around the world. Students will learn about the process, challenges and failures that innovators have endured. Students will learn to identify needs, trends, and industry innovations that have created paradigm shifts and cultural revolutions. Most importantly, this course will attempt to have each student understand and believe in the necessity of innovation. This course is designed to inspire, and support innovate thinking to the aspiring entrepreneur.
Prerequisites: ENT 2200

- ENT 3325 Entrepreneurial Mindset (3)**
 Entrepreneurial Mindset showcases innovative companies, ideas, people, and business models. Students will learn about entrepreneurial concepts, transformational innovation, creativity, and financial feasibility perspectives, and how entrepreneurial opportunities can become a reality. This course is designed to inspire and support innovative thinking in the aspiring entrepreneur.
- ENT 3300 Product Development and Mentorship (3)**
 Product Development and Mentorship will investigate the resources needed to employ the innovative idea. These resources may be identified as, but not limited to, resourcing related to labor, materials and inventory, outsourcing, prototyping and brand identification. Students will conduct test market focus groups related to design, implementation, and brand awareness.
Prerequisites: ENT 2210
- ENT 3330 Micro-entrepreneurship and the Gig Economy (3)**
 Jobs paid on a per-gig basis exemplify entrepreneurship through flexible, nontraditional work arrangements. How entrepreneurs redefine work with the Gig Economy through shared creation, production, and distribution of products or services will be examined. Direct selling as a microentrepreneurial business-building platform will be explored.
Prerequisites: ENT 3325
- ENT 4400 Business Plan Development (3)**
 Business Plan Development will assist students in developing a comprehensive plan that contains a business summary, profile, market analysis, organization and management, service/product, equipment, marketing and promotion, financial projections, and funding needs. Students completing this course will earn NxLevel Certification.
Prerequisites: ENT 2210
- ENT 4480 Entrepreneurship Seminar (3)**
 Entrepreneurship Seminar is the capstone course in the Troy Bank & Trust Entrepreneurship Program. It integrates theory and practice from prior courses in the discipline while tying together the functional aspects of an entrepreneurial initiative. Topics focus on entrepreneurial innovation, opportunity, recognition, market research and feasibility, strategy formulation, and venture finance.
Prerequisites: ENT 3300 and completion of 6 semester hours in the required Entrepreneurial Concentration.
- ENT 4490 Special Topics in Entrepreneurship (3)**
 This course examines a selected entrepreneurial topic of interest that is not covered in other course offerings. The topic for the semester will be indicated in advance. Students may repeat the course for credit as long as the selected topics are different. Maximum credit of six hours.
Prerequisite: ENT 3325
- ENT 4493 Guided Independent Study (3)**
 This course involves direct project work of mutual interest to a student and faculty member.
Prerequisite: ENT 3325
- ENT 4499 Entrepreneur Internship (3)**
 This course involves the practical application of entrepreneurship principles in an actual business setting. Students gain practical, professional experience in conjunction with academic development under the supervision of both a faculty member and an entrepreneur in the student's area of interest.
Prerequisite: ENT 3325 and completion of 6 semester hours in the required Entrepreneurial Concentration.

ENGLISH AS A SECOND LANGUAGE (ESL)

For more information, see the index for English as a Second Language Program.

- ESL 1100 Preparatory English Nonnative Speakers of English (3, with petition)**
Instruction for nonnative speakers of English preparing for ENG 1101. Focus on application of rules of standard English grammar and U.S. composition patterns. Involves application of appropriate computer software and a variety of written activities. Students who do not pass the eWrite text are placed in this course. Students write five to seven in-class compositions and may be required to attend weekly session at the ESL Tutoring Center and ESL Computer Lab. Classes meet four days per week.
Note: This course will not substitute for any general studies requirement and will not be used in meeting minimum degree requirements.
- ESL 1102 Listening/Speaking VI Advanced**
Academic focus: listening strategies for academic lectures, such as anticipating and organizing information; understanding connecting words and pronoun referents; recognizing analogy, quotations, and paraphrasing. Skill-building exercises include listening for main ideas, making inferences, listening for specific information, summarizing, and recognizing vocabulary in context. Speaking focuses on delivering oral presentations, engaging in academic discourse. Computer Lab requirement.
- ESL 1104 Reading VI Advanced**
Helps the students be ready for academic reading. Vocabulary building through brainstorming, vocabulary lists, and close exercises that help learners guess the meaning from context and see regularity in the language. Introduces students to the lifestyles, attitudes, customs, and traditions of Americans. Reading Lab requirement: one hour per week.
- ESL 1106 Grammar VI Advanced**
Review, expansion, and practice of auxiliaries and phrasal verbs, gerunds and infinitives, introduces adverbs and adverb clauses, noun clauses (subjects and objects), unreal conditionals and other ways to express unreality, and the subjunctive, inverted and implied conditionals. Includes in-depth analysis of sentence structure: sentence types, sentence fragments, parallelism of gerunds and infinitives, sentence and fragments, writing direct and indirect speech, and avoiding run-ons and comma splices. Independent CD-based exercises on topics covered in 1106 – two hours per week.
- ESL 1108 Writing VI Advanced**
Focus on essay construction. Emphasis is placed on coherence, unity, and writing well-developed and well-organized essays. Explores different rhetorical patterns (chronological order, logical division of ideas, cause-effect, comparison/contrast, etc) as means to the end in fulfilling academic writing assignments. Study of different ways to organize and present ideas for different groups of readers. Emphasis on writing as a process, with frequent group work to generate ideas and practice peer editing. Writing Lab requirement: one hour per week.
- ESL 1111 Research Writing Skills**
This course is designed for advanced students who have successfully completed Level VI. The objective of the course is to build upon the skills learned in previous levels and better equip the students with college-level skills in writing and research. Students will engage in writing research-based papers to learn, understand, and use proper citations (APA or MLA) as well as write reflectively and paraphrase/summarize. Students

will utilize on-campus library resources and gain knowledge pertaining to reliable and unreliable resources. Upon completion of this course, students will have the ability to write research papers and essays free of plagiarism on both the graduate and undergraduate level.

- ESL 1112 Oral Communication Skills**
This course is designed for advanced students who have successfully completed Level VI. The objective of the course is to intensify the listening and speaking skills learned in previous levels and better equip the students with both academic and professional speaking skills. In this course, students will listen to content-based academic lectures. Students will learn to take notes more effectively and to respond critically to those lectures through debates and discussions. Students will also learn how to conduct research, write presentation outlines, and give presentations more effectively. Upon completion of this course, students will have gained greater confidence in their ability to speak English in any situation presented to them and to succeed in their major fields in college.
- ESL 1113 Critical Analysis Skills**
This course is designed for advanced students who have successfully completed Level VI. The objective of the course is to intensify the skills learned in previous levels and better equip students with college-level skills. Students will be reading content-based materials featuring American History, American Literature, and Sociology. Students will learn more academic vocabulary and further develop critical thinking skills to effectively respond to those materials through paragraph writing, summarizing, paraphrasing, and classroom discussions. Upon completion of the course, students will have gained greater confidence in their ability to read, comprehend, and analyze college-level materials and to succeed in their major fields of study.
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- FINANCE COURSES (FIN)**
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- FIN 2210 Personal Financial Planning (3)**
Introduction and comprehensive overview of personal financial planning. Topics include introduction to financial planning, managing assets, credit, insurance, investments, retirement and estate planning.
- FIN 3331 Managerial Finance (3)**
Analysis, planning and control of key financial decisions of the firm.
Prerequisites: Lower-level Core, ACT 2291, and MTH 1112
- FIN 3332 Financial Management II (3)**
Second course in a sequence of corporate finance. Continuation of FIN 3331 with focus on topics in financial management not covered in FIN 3331.
Prerequisites: FIN 3331.
- FIN 3333 Financial Mathematics (3)**
Analysis of time value of money as it applies to loans, securities, banks, annuities, and insurance.
Prerequisite: MTH 1112.
- FIN 3334 Financial Statement Analysis (3)**
The process of understanding financial statements by financial analysts and credit analysts, and other uses of financial data.
Prerequisite: FIN 3331.
- FIN 3336 Real Estate Finance I (3)**
Procedures and operations of real estate mortgage markets.
Prerequisite: FIN 3331.

- FIN 3338 Intermediate Personal Financial Planning (3)**
Introduction and comprehensive overview of personal financial planning. Topics include introduction to financial planning, managing assets, credit, insurance, retirement, and estate planning.
Prerequisite: Lower business core.
- FIN 3360 Entrepreneurial Finance (3)**
This course covers financial issues related to entrepreneurship. The focus is on how to apply financial tools and skills to entrepreneurial businesses. The topics covered in this course include financial management and planning, financial statement analysis, time value of money, capital budgeting, working capital management and sustainability.
Prerequisites: FIN 3331, MGT 4475.
- FIN 4419 Derivatives (3)**
This course examines theory and usage of forward contracts, future contracts, index futures, Markov and Wiener processes, Black Scholes analysis, options, Indexed options, and hedging using naked and covered positions, and other nonstandard derivative securities.
Prerequisite: FIN 3331.
- FIN 4431 Intermediate Financial Management (3)**
Analysis of financial management of a firm at the intermediate level, with emphasis on the corporation. Includes more advanced analysis of topics covered in FIN 3331 as well as other advanced topics.
Prerequisites: FIN 3331.
- FIN 4432 Investments (3)**
Financial analysis of investments, including markets, institutions, and instruments with emphasis on security analysis, portfolio analysis, and financial planning.
Prerequisite: FIN 3331.
- FIN 4434 Financial Modeling (3)**
This course provides an examination of standard financial models used in corporate finance, financial statement stimulation, portfolio problems, options, portfolio insurance, duration, and immunization. The primary focus of study is on the application of strategic models of decision making and marketplace activity within the stimulated environments which approximate real time.
Prerequisite: FIN 4432.
- FIN 4435 International Finance (3)**
A comprehensive introduction and overview of international finance with emphasis upon multinational corporation management, international trade, foreign exchange, and international financial markets, institutions, and instruments.
Prerequisite: FIN 3331.
- FIN 4436 Securities Analysis (3)**
Introduction and comprehensive overview of securities analysis. Topics include stocks, bonds, Mutual funds, taxes, annuities, new issues, IPOs, OTC, exchanges, options, margin trading, short selling, laws and regulations, and fundamental technical, and modern security and portfolio analysis techniques.
Prerequisite: FIN 4432
- FIN 4437 Financial Institutions (3)**
A comprehensive study of financial markets, institutions, instruments, etc.
Prerequisite: FIN 3331 and FIN 4431.
- FIN 4438 Bank Management (Capstone) (3)**
Introduction and comprehensive overview of bank management. Topics include: organization, regulation, performance, asset management, liabilities management, credit policy, loan evaluation, global banking, bank mergers and acquisitions, etc.

Prerequisites: FIN 3331

- FIN 4440 Real Estate Finance II (3)**
Second course in a sequence on real estate finance. Continuation of FIN 3336.
Prerequisite: FIN 3336
- FIN 4454 Public Finance (3)**
This course examines and analyses public finance from the perspective of the financial management of governmental enterprises. It examines revenues and expenditures at all levels of government, the financial management of government enterprises, and effects of public finance on business and finance and personal finance.
Prerequisite: FIN 3331.
- FIN 4460 Financial Plan Development (3)**
The process of developing and presenting a comprehensive financial plan, including analysis of personal financial situations and effective communication of plan strategies.
Prerequisite: FIN 4431.
- FIN 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
Note: This course may not be substituted for any required course.
- FIN 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
Note: This course may not be substituted for any required course.
- FIN 4499 Internship (3)**
The Finance Internship provides is a supervised work experience that provides students with the opportunity to gain applied work experience their field of study. Students with the opportunity to gain real-world experience in their field of study. Students are interviewed and selected by the individual companies offering the internship. This course may be repeatable and must comply with the SCOB internship policy. See the Economics/ Finance division chair for details.

FRENCH COURSES (FRN)

Note: For additional information, see Placement in Academic Courses.

- FRN 1101 Introductory French I (3)**
Introduction to the French language and culture.
- FRN 1102 Introductory French II (3)**
Introduction to the French language and culture.
Prerequisite: FRN 1101 or permission of instructor.
- FRN 2201 Intermediate French I (3)**
Reinforcement of fundamental skills, study of sophisticated language structures and reading of simple French prose and poetry.
Prerequisite: FRN 1102 or permission of instructor.
- FRN 2202 Intermediate French II (3)**
Reinforcement of grammatical skills, reading of simple French prose and poetry, composition and conversation.
Prerequisite: FRN 2201 or permission of instructor.
- FRN 3310 French Culture on Location I (3-TBA)**
An in-depth presentation of French culture combining lectures, readings, films, audiotapes, discussions and intensive language practice on the Troy Campus with on-site visit to a Francophone environment.
Prerequisite: Permission of instructor.

FRN 3311 French Culture on Location II (3-TBA)
An in-depth presentation of French culture combining lectures, readings, films, audiotapes, discussions and intensive language practice on the Troy Campus with on-site visit to a Francophone environment.
Prerequisite: Permission of instructor.

FRN 4491/92 Guided Independent Research (1 to 3 credit hours per course per semester)
Additional information is indexed under Independent Study and Research.

FRN 4493/94 Guided Independent Study (1 to 3 credit hours per course per semester)
Additional information is indexed under Independent Study and Research.

FORENSIC SCIENCE (FSC)

FSC 2201 Introduction to Forensic Science (3)
This course provides students with an introduction to various fields of study and how they are used in a modern medicolegal context. A brief history of the development and professionalization of forensic sciences in the U.S. is also covered. Fields discussed include anthropology, biology, dentistry (odontology), entomology, pathology, psychology, and toxicology.

FSC 3301 Ethics in Forensic Science (3)
This course explores foundational ethical concepts as they relate to forensic sciences. The course uses applied case-study examples to analyze ethical and moral boundaries of practice
Prerequisite: FSC 2201.

FSC 3302 Forensic Science in Media (3)
This course explores how forensic science and scientists are depicted in popular culture and journalism and how this influences the public's opinion of the field and its practitioners.
Prerequisite: FSC 2201.

FSC 3303 Death Investigation (3)
This course explores the fundamentals of death investigation as a profession and its role in the medicolegal system.
Prerequisite: FSC 2201.

FSC 3304 Forensic Evidence (3)
This course discusses the theory and practice of evidence protection and collection including biological and medical evidence and controls to be collected, aspects of scenes to be photographed, forensic report writing, rules of evidence and legal considerations of expert witness testimony.
Prerequisite: FSC 2201.

FSC 3305 Criminalistics (3)
This course is an in-depth examination of the role of forensic evidence technicians.
Prerequisite: FSC 2201.

GAME DESIGN AND DEVELOPMENT COURSES (GDD)

GDD 2210 History Through Games (3)
This course will utilize a variety of different game formats, including video games, role-playing games, board games, and sports to explore historical concepts and events. Students will be encouraged to think analytically about the ways games interpret historical events versus textbook explanations.

GDD 3310 History of Game Design (3)
A focus on the history and development of different types of games and game mechanics. Emphasis placed on integrating games with their particular cultural and political context. Students will

produce a working prototype of a game as a part of the class.

GDD 3320 Game Development (3)
An introduction to the concepts of game development, including theory, playtesting, marketing, crowdfunding, and the publication process. Students will refine and continue development of a game as a part of the class.
Prerequisite: Either HIS 2210/GDD 2210 History Through Games.

GDD 4425 Special Topics in Game Design and Development (3)
Advanced study of a designed topic of special interest.
Prerequisites: Either HIS 2210/GDD 2210 History Through Games OR GDD 3310/HIS 3310 Game Design History AND permission of the instructor.

GDD 4490 Internship in Game Design and Development (3)
Supervised work in an agency that can provide practical experience in the field of study.
Prerequisites: Senior standing, at least a 2.5 GPA, at least 12 completed hours towards the Game Design and Development minor, and the permission of the minor advisor, supervising instructor, department chair, and/or dean.

GDD 4499 Game Design Capstone (3)
This course requires the student to synthesize previous coursework in the minor. Students complete design and development of a working game, suitable for crowdsourcing, and public release.
Prerequisite: 15 hours of Game Design and Development minor coursework, including GDD 3320 Game Development.

SURVEYING AND GEOMATICS SCIENCES COURSES (GEM)

GEM 1100 Computer-Aided Drafting I (2)
This course gives students basic skills using computer-aided drafting software in fundamental two dimensional drafting and design, and advanced techniques in three-dimensional geometric modeling.

GEM 1101 Computer-Aided Drafting II (2)
This course gives students skills in surveying drafting, map components, and fundamental skills in drafting basic surveying features using computer aided software.
Prerequisite: GEM 1100.

GEM 2220 Basics of Surveying (3)
This course provides each student an introduction to measurement theory, instrumentation, measurement systems, measurement computations, data accuracy and precision. The structure of the field of geomatics is explored. Major components of the course are survey statistics, traverse computations, coordinate systems and datums, elevations, and mapping. The use of computer-aided drawing software to produce maps and plats is required.
Prerequisites: MTH 1114.

GEM L220 Basics of Surveying Lab (1)
This field laboratory provides the opportunity to use instrumentation to make the necessary measurements to produce computed products. Focuses on the use of a field book to record measurements, the analysis of field measurements, and the use of survey instrumentation.
Prerequisite: MTH 1114

- GEM 3309 Land Survey Principles (3)**
The course includes the basic principles of land tenure and the cadaster with the major component being the study and application of survey statute and related case law. The concepts underlying the hierarchy of evidence, sequential versus simultaneous conveyances, adverse possession, riparian rights, land descriptions, and the U.S. Public Land Survey System are explored.
Prerequisite: GEM 2220.
- GEM L309 Land Survey Principles Lab (1)**
This laboratory explores the impact of land survey law on the practice of surveying and mapping in the state of Alabama. Focuses on the practice of writing legal descriptions, the structure of the U.S. Public Land Survey System, and courthouse research.
Prerequisite: GEM 2220
- GEM 3310 Land Survey Practice (3)**
The issues of boundary location and retracement are central to this course. Focuses on Alabama survey history, the practice of surveying in Alabama, professional ethics, and the Standards of Practice for Surveying in Alabama.
Prerequisite: GEM 3309.
Co-requisite: GEM L310
- GEM L310 Land Survey Practice Lab (1)**
Students will participate in surveys of sectionalized land in Pike County. Section corners, quarter corners and other evidence will be located using GPS and traditional surveying methods. Students will also be assigned a township research project and will present the research results to the class.
Co-requisite: GEM 3310.
- GEM 3330 Advanced Measurement Analysis (3)**
Survey equipment calibration, instrumentation error, topographic mapping, control leveling, instrumentation error, and the propagation of error through survey calculations. This course is the second course of a one-year study of survey fundamentals.
Prerequisite: GEM 2220.
Co-requisite: GEM L330.
- GEM L330 Advanced Measurement Analysis Lab (1)**
Field laboratory experience using EDM calibration baselines, conducting topographic mapping projects and control level loops, and testing for instrument errors. The student is introduced to the field use of data collectors.
Co-requisite: GEM 3330.
- GEM 3366 Photogrammetry and Remote Sensing (3)**
Introduction to metrical photogrammetry, interpretative photogrammetry, and remote sensing. Focuses on the theory, instrumentation, and practical application of photogrammetry to the problem of mapping the earth's surface. Remote sensing concepts, principles, sensors, and specific satellite platforms are covered in the course. Hands-on exercises are given that makes use of software to create stereo models, orthophotos, and perform image processing.
- GEM 3379 Introduction to Least Squares Adjustment (3)**
The theoretical principle of error propagation and least squares adjustment theory to compute optimized solutions to geomatics problems involving redundant data. The use of mathematical scripts and least squares software to solve spatial data adjustment problems in land surveying and geomatics applications.
Prerequisites: MTH 1125, STAT 2210, MTH 2230, GEM 3330 or instructor approval.
- GEM 3395 Cooperative Work Experience I (1)**
The course provides students with experience working with an employer approved for the Cooperative Work Experience component of the Surveying and Geomatics Sciences Program. The student is expected to submit a written and oral report to the faculty member directing the project, detailing the work experience.
Prerequisites: GEM 2220, 2.0 overall grade point average, and approval of the Geomatics Program Director.
- GEM 4405 Route and Construction Surveying (3)**
Explores the theoretical foundations of route and construction surveying. Course topics are coordinate geometry (COGO), horizontal and vertical curve models, spirals, alignments, stationing, cross sections, areas, volumes, and route design elements.
Prerequisites: GEM 3330.
Co-requisite: GEM L405.
- GEM L405 Route and Construction Surveying Lab (1)**
This field laboratory applies the principles of route and construction surveying, the use of civil design software, and the use of data collectors for practical design and field layout.
Co-requisite: GEM 4405.
- GEM 4407 Land Development (3)**
Explores the concepts and problems associated with the design and construction of subdivisions and related infrastructure.
Prerequisites: GEM 4409.
Co-requisite: GEM L407.
- GEM L407 Land Development Lab (1)**
This computer laboratory provides the student the opportunity to design and create those drawings necessary for local government approval of the typical subdivision.
Co-requisite: GEM 4407.
- GEM 4408 Geodesy and Geodetics (3)**
Focuses on mathematical models of the earth, survey astronomy, the earth's gravity field, and coordinate systems, and geodetic reference framework. Important skills developed in this course include coordinate and datums transformations, map projections, astronomic observation, geodetic computations, surveying network design, and geodetic control survey.
Prerequisites: MTH 1125 or instructor approval.
- GEM 4409 Hydrology (3)**
Explores several models used to compute runoff estimates based on particular rainfall events. Course topics are the hydrologic cycle, rainfall intensity, runoff models, hydrographs, storm sewer design, culvert design, open channel flows, watershed delineation, water detention and retention structures, and onsite sewage disposal systems.
- GEM L409 Hydrology Lab (1)**
Compute peak runoff estimates, and open channel designs. Computer models are explored with respect to solving and presenting peak runoff solutions. A design project involving the use of large-scale topographic maps will be assigned.
- GEM 4410 Introduction to Global Positions (GPS) (3)**
Introduction to history and development of GPS and global navigation satellite systems (GNSS); GPS signals and observables; basic principles of GPS operations; GPS error analysis, GPS survey methods and procedures; and GPS data collection, processing; and GPS applications to Geomatics.
Prerequisite: GIS 3390.
- GEM 4490 Geomatics Capstone (1)**
This course prepares students for the national Fundamentals of Surveying exam to cover all aspects of the exam.
Prerequisite: GEM 4409
- GEM 4493 Guided Independent Study (1-3)**
Supervised study through creative field and laboratory projects in the Surveying and Geomatics field. A written request is to be submitted to the

guiding professor and Program Director at least two weeks in advance of the term in which the study is to be undertaken. This study is NOT to be used to repeat a course for which a grade of 'D' or below has been earned. Application forms are available in the office of University Records. For more information see index for "Independent Study and Research".

Prerequisites: GPA of 3.0, permission of guiding professor, approval of Geomatics Program Director, Department Chair, and Dean.

- GEM 4494 Guided Independent Study (1-3)**
Supervised study through guided readings, creative endeavors in the Surveying and Geomatics field. A written request is to be submitted to the guiding professor and Program Director at least two weeks in advance of the term in which the study is to be undertaken. This study is NOT to be used to repeat a course for which a grade of 'D' or below has been earned. Application forms are available in the office of University Records. For more information see index for "Independent Study and Research".
Prerequisites: GPA of 3.0, permission of guiding professor, approval of Geomatics Program Director, Department Chair, and Dean.
- GEM 4496 Cooperative Work Experience II (1)**
The student must be in residence at Troy University for a minimum of one semester after completion of GEM 3395 before leaving for cooperative work experience under GEM 4496. The student is expected to submit a written and oral report to the faculty member directing the project, detailing the work experience.
Prerequisites: GEM 3395 and approval of the Geomatics Program Director.
- GEM 4499 Geomatics/GIS Projects (2)**
This course offers the Geomatics/GIS student the opportunity to apply the fundamental principles and concepts learned in the study of Geomatics/GIS to a particular problem or project. The student will state the problem, design an experiment to test a hypothesis concerning the problem statement, take the measurements, array the data, analyze the data, state conclusions, and write a final report based on the analysis and conclusions.
Pre-requisite: GEM 4409.

GEOGRAPHY COURSES (GEO)

- GEO 2210 World Regional Geography (3)**
Physical and cultural features, economy, and populations of the geographic regions of the world.
- GEO 2220 Digital Exploration of the World (3)**
Using digital technologies to collect and present multimedia information tied to locations and landscapes around the world. With storytelling as a communication methodology, this course teaches skills in exploring and visualizing historical change in space and time on the earth using mobile devices, internet, Augmented Reality (AR) and Virtual Reality (VR) technologies.
- GEO 2225 Geography of North America (3)**
This course is designed to introduce the student to the region of North America from a geographic perspective. This course examines the North American by investigating the survey of agricultural, industrial, and commercial development of Anglo-America, as well as covering physical and cultural environment, resource distribution, economy, and population characteristics. In examining the regional geography of North America, we will be using the course by exploring the basics in terms of the physical environment, historical development and political economy, and subsequently explore North America by breaking it down to its sub-regions-
- each of which will include the above topics plus examinations of the sociocultural aspects of the sub-regions.
- GEO 2299 Basic GIS (3)**
This course is for students who are interested in learning the basics about Geographic Information System (GIS) and use of this powerful technology to create maps, collect data, and perform advanced analysis. This course is designed for a broad audience.
- GEO 3300 Principles of Physical Geography (3)**
Earth geography including climate, soils, natural vegetation, water resources, rocks, minerals, and surface structures.
- GEO 3301 Principles of Cultural Geography (3)**
Interrelationship of geographical elements in various world situations.
- GEO 3306 Geography of Asia (3)**
This course is designed to introduce the physical and cultural geography of the Asian region. Students will be provided with an overview of Asian landform features and climate coupled with a discussion of human interaction with a variety of Asian landscapes in terms of historical, political, economic, religious, and ethnic factors using geographic and cartographic analytical techniques.
- GEO 3307 Geography of Europe (3)**
Selected topic studies in the physical and cultural environment, resource distribution, economy, and population characteristics of the European-Slavic land areas. Special attention will be devoted to the study of the geo-political influence of this area on lesser developed nations and the U.S.
- GEO 3309 GIS/Spatial Data Applications in Criminal Justice (3)**
An introduction to the use of spatial data applications in a wide range of real world policing endeavors; i.e., monitoring sexual predators, traffic accident reporting and modeling, crime scene analysis. One field trip to the Department of Public Safety in Montgomery, Ala. is required.
- GEO 3312 Geography of Latin America (3)**
An analysis of the major physical and cultural aspects of Middle and South America.
- GEO 3326 Geography of the Russian Realm (3)**
An analysis of the physical and cultural aspects of Russia and the other former republics of the Soviet Union.
- GEO 3331 Geography of the Middle East and North Africa (3)**
Physical setting, resource distribution, economy, population characteristics, and geopolitical importance of the region.
- GEO 3350 Weather and Climate (3)**
A study of the physical properties of weather and climate.
- GEO 4402 Political Geography (3)**
Analysis of the reciprocal effects of geography and political organization on the behavior of states including boundaries and frontiers, national resources, spatial strategy, and maritime power.
- GEO 4403 Conservation (3)**
The conservation of natural and human resources with emphasis on population expansion as the major element in changing ecology.
- GEO 4404 GIS/Spatial Data Applications in Economics (3)**
An introduction to the use of spatial data applications in the fields of business and economic development, including site selection and analysis of customer characteristics.

- GEO 4406 Urbanism (3)**
Historical, physical, economic, and societal evolution of the urban area. American metropolitan problems and implications for policy and planning. *Note: One field trip required at student's expense. This course may be taken for sociology credit.*
- GEO 4408 Rural America: Past and Present (3)**
A study of rural society, its organization, agencies, institutions, population trends and composition, patterns of settlement, social processes, and change in character.
- GEO 4411 Population and Society (3)**
This course provides an overview of how to analyze and think about changing population trends in the U.S. as well as around the world. Students will learn how to relate contemporary and pressing problems such as migration, population growth, fertility, death rates, and other population changes to current social and economic policy debates (e.g., funding for Social Security, education, healthcare, etc.).
- GEO 4435 Historical Geography of North America (3)**
An analysis of the physical and cultural factors in the development of North America from early European settlement to the present.
- GEO 4485 Practicum in GIS/Spatial Data (3)**
Supervised GIS projects on a topic chosen by the student. Intended to give practical experience for the student seeking GIS employment post-graduation.
- GEO L485 GIS/Spatial Data Modeling Lab (2)**
The purpose of this lab is to allow the students to demonstrate their ability to collect, formulate, analyze, and draw conclusions based upon a real world modeling exercise.
- GEO 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.
Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."
- GEO 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Supervised study through field and laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: Junior or senior standing, with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."
- GEO 4498 Honors Independent Study (1 to 3 credit hours)**
Advanced research and study for outstanding students in their major field. Culminates in report to a department committee which includes invited faculty members in related fields.

GERMAN COURSES (GER)

Note: For additional information, see Placement in Academic Courses.

- GER 1121 Introductory German I (3)**
Introduction to the German language and culture.
- GER 1122 Introductory German II (3)**
Introduction to the German language and culture.
Prerequisite: GER 1121 or permission of instructor.
- GER 2221 Intermediate German I (3)**
Emphasis on basic language skills and knowledge of German culture.
Prerequisite: GER 1122 or permission of instructor.
- GER 2222 Intermediate German II (3)**
Emphasis on basic language skills and knowledge of German culture.
Prerequisite: GER 2221 or permission of instructor.
- GER 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.

GREEK COURSES (GRK)

Note: For additional information, see Placement in Academic Courses.

- GRK 1111 Introductory Greek I (3)**
Introduction to the ancient Greek language with emphasis on pronunciation, basic vocabulary, fundamentals of grammar, and graded readings.
- GRK 1112 Introductory Greek II (3)**
Continuation of GRK 1111.
Prerequisite: GRK 1111 or permission of instructor.

GEOGRAPHIC INFORMATION SCIENCES COURSES (GIS)

- GIS 3301 Cartography & Geovisualization (3)**
Skills and knowledge required to design, produce and reproduce maps, and understand the computation issues relating to these workflows, and capabilities for representing and interpreting spatial information through maps and related mapping products.
- GIS 3305 Spatial Information and Analysis (3)**
Skills and knowledge related to spatial processes, point patterns, and autocorrelation in area data, as well as in continuous fields.
Prerequisite: GIS 3390
- GIS 3310 Introduction to Remote Sensing (3)**
The course introduces the basics and application of remote sensing for earth observation. It covers physical principles of remote sensing technologies, different types of remote platforms and sensors, data acquisition, storage, processing, interpretation, analysis, and applications.
- GIS 3390 Fundamentals of Geographic Information and Analysis (3)**
This course is the first course in a one-year study of the fundamentals of Geographic Information Systems (GIS). Topics of study are digital mapping, data capture, data conversion, data structures, and spatial data concepts. Hands-on exercises are included using some of the common GIS software.
- GIS 3391 Application of Geospatial Information Sciences (3)**
This course provides a study of common applications of GIS. The course provides further study in database design, digital base map analysis

and testing, and spatial analysis. Hands-on exercises are included using some of the common GIS applications.

Prerequisite: GIS 3390.

GIS 3395 Study Abroad in Geospatial Information Sciences (3)

This course provides an opportunity for Geomatics/ GIS students to explore spatial applications on a global scale through study abroad and an international field trip, to expand their understanding of their global identity, and to enhance their intercultural competence within their personal and professional development.

Prerequisite: GIS 3390

GIS 4401 Spatial Database Design and Management (3)

Introduction to design, implementation, and management of spatial data base systems; modeling and representation of spatial objects; fundamentals of relational database design, normalization, and SQL; spatial data queries, spatial indices, and integrity constraints; and spatial database management and applications.

Prerequisite: GIS 3390.

GIS 4405 Spatial Modeling and Programming (3)

Introduction to geospatial analysis and modeling process using GIS modeling tools and programming languages. Focuses on GIS customization, integration of basic geoprocessing tools, programming fundamentals of Python, spatial data access and manipulation with Python, design and implementation of geospatial solutions to automate geoprocessing tasks using Python.

Prerequisite: GIS 3390.

GIS 4415 Advanced Geospatial Technologies (3)

This course provides students an introduction to advanced technologies in geospatial data collection and analysis, including GNSS, LiDAR, terrestrial 3D scanner, UAS, and their integration with Geographic Information Systems.

Prerequisite: GIS 3390

GIS 4420 Web Based GIS/ Spatial Data Applications (3)

The student will learn the techniques and protocols needed to develop and transmit spatial databases for use by a variety of interests on the World Wide Web. "Remote" spatial data analysis on existing databases will be an important component of the course.

Prerequisite: GIS 3390

GIS 4490 GIS Senior Project (3)

This course offers students, with senior status, an opportunity to independently apply fundamental principles and concepts learned in the study of geospatial information science to a specific application. Each student will identify a specific problem, conduct background and literature research, collect and analyze spatial data, design and implement GIS functions/models to solve the problem, state conclusions and present the study in a final report.

Prerequisite: Senior standing

GIS 4491-92 Guided Independent Research (1-3)

Additional information is indexed under Independent Study and Research

GIS 4493-94 Guided Independent Study (1-3)

Additional information is indexed under Independent Study and Research

GIS 4499 GIS Internship (3)

The course provides students with real work experience with an employer approved for the internship component of the GIS major. The student is expected to submit a written report and oral presentation to the faculty member directing the project, detailing the work experience.

Prerequisite: GIS 3391

HISTORY COURSES (HIS)

HIS 1101 Western Civilization I (3)

Survey of developments in Western history from the pre-historic era to early modern times, including classical antiquity, Middle Ages, and Renaissance and Reformation.

HIS 1102 Western Civilization II (3)

Survey of developments in Western history from modern times to the contemporary era, including the Scientific Revolution, Enlightenment, French Revolution and Napoleon, nationalism, imperialism, two world wars, and the postwar era.

HIS 1103 Honors Western Civilization I (3)

Chronological coverage same as HIS 1101.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 1104 Honors Western Civilization II (3)

Chronological coverage same as HIS 1102.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 1111 U.S. to 1877 (3)

Survey of American history from the colonial period through Reconstruction, including the Revolution, Constitution, Early National Era, sectional problems, and the Civil War.

HIS 1112 U.S. since 1877 (3)

Survey of American history from post-Reconstruction to the contemporary era, including industrialization, emergence as a world power, World War I, Great Depression, World War II, Cold War, the expanding role of government, and global issues in the post-Communist era.

HIS 1113 Honors U.S. to 1877 (3)

Chronological coverage same as HIS 1111.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 1114 Honors U.S. since 1877 (3)

Chronological coverage same as HIS 1112.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 1122 World History to 1500 (3)

This course surveys the origins, development, and character of the major centers of civilizations and their relationships to one another from the earliest civilizations to 1500.

HIS 1123 World History from 1500 (3)

This course surveys the growth, development, and character of the major centers of civilizations from 1500 to the present. The course focuses on the growing interconnections among societies around the globe in politics, economics, culture, and technology and examines the wide processes leading to the emergence of the present world.

HIS 1124 Honors World History I to 1500 (3)

Chronological coverage same as HIS 1122.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 1125 Honors World History II to 1500 (3)

Chronological coverage same as HIS 1123.

Enrollment restricted to superior students.

Prerequisite: Permission of department chair.

HIS 2210 History Through Games (3)

This course will utilize a variety of different game formats, including video games, role-playing games, board games, and sports to explore

- historical concepts and events. Students will be encouraged to think analytically about the ways games interpret historical events versus textbook explanations.
- HIS 2215 History Through Movies and Music (3)**
This course will explore historical topics through various popular culture sources, including movies and music. Students will be encouraged to compare the popular culture material with historical events as well as analyze the sources in the context of their times.
- HIS 2220 Cultural History of Alcohol and Drug Use in the United States (3)**
This course examines attitudes, laws, religious structures, and political movements related to the prohibition and promotion of alcohol and other drugs in various periods in America's past. The course will examine films, music, novels, and dramatic works in an attempt to understand the role of mood-altering substances in American life. Particular attention will be paid to attempts to provide solutions to problems associated with alcohol and drug use such as the prohibition movement, Alcoholics Anonymous, medical-based treatment programs, and prevention programs.
- HIS 2225 The African-American Experience (3)**
This course explores African-American history from slavery through the present day, with a focus on societal roles and contributions, along with political thought and cultural movements. The course emphasizes the importance of this history and culture in understanding the world today.
- HIS 2230 General Topics in History (3)**
Historical examination of a designed topic of special and/or current interest and importance generally not covered in regularly offered courses by the department. This course may be repeated once for credit.
- HIS 2235 History of the American Civil War (3)**
This course introduces students to the legal, political, cultural, and military conflicts that redefined the United States between 1845-1877.
- HIS 2280 Travel Study in History (1-3)**
Supervised investigation of relevant topics in history through travel-study abroad or within the interior of United States.
Prerequisite: Permission of instructor. Course may be repeated with permission of instructor.
- HIS 2281 International History of World War II (3)**
This course explores the causes, features, and consequences of WWII within the international context, placing emphasis on the military, diplomatic, economic, technological, and special aspects of the Western and Eastern European and Pacific theatres. Students will examine the interconnectedness of events as well as the memory and legacy of the war in the US, Asia, and Europe today.
- HIS 3302 History of Religion in the United States (3)**
A study of the development of religion in the United States, including denominations, beliefs, church life, and the relationship of religious beliefs to other beliefs and institutions.
Prerequisite: HIS 1111 and 1112 or permission of instructor
- HIS 3304 Military History of the United States (3)**
A study of war in United States history from the Colonial period to the present, with emphasis on the
- role of warfare in United States history and the relationship of the military to the civilian.
Prerequisite: HIS 1111 and 1112 or permission of instructor.
- HIS 3311 Civilization of Greece (3)**
Historical and cultural achievements of the Greeks and their legacy to the modern world.
- HIS 3312 Civilization of Rome (3)**
Historical and cultural achievements of the Romans and their legacy to the modern world.
- HIS 3314 History of Game Design (3)**
A focus on the history and development of different types of games and game mechanics. Emphasis placed on integrating games with their particular cultural and political context. Students will produce a working prototype of a game as part of the class.
- HIS 3316 History of Alabama (3)**
A study of the demographic, political, social, economic, and religious aspects of Alabama's history, emphasizing the role of the state within the nation.
Prerequisites: HIS 1111 and 1112 or permission of instructor
- HIS 3331 Western Thought since the 17th Century (3)**
Principal ideas and political thinking from the Age of the Enlightenment to the present.
Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.
- HIS 3346 Cultural History of the United States to 1877 (3)**
A study of American society through its literature, religion, philosophy, and the arts. Emphasis will be on immigration patterns, European cultural transfer, and environmental adaptations that created the American character.
Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.
- HIS 3347 Cultural History of the United States since 1877 (3)**
This course provides a concentrated study of changing thought patterns resulting from the rise of Big Business, theories of the public interest, and the emergence of the United States as a world power. Wide opportunities for reading offered in religion, philosophy, literature, and the arts
Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.
- HIS 3365 Bioethics in Historical Context (3)**
This course focuses on the development of bioethics, organized both chronologically and thematically. By situating fundamental ethical questions in historical context, we will analyze the influence of developments in science and technology (e.g., introduction of new drugs, transplantation, dialysis, cloning), as well as the cultural, political, and legal contexts of key ethical issues.
- HIS 3375 Research and Methodology (3)**
A course designed to acquaint students with research methods and computer skills as related to the history profession. The principal requirement is the successful completion of a formal research paper in which students will demonstrate proficiency in research, writing, and basic computer skills.
Note: It is strongly recommended that history majors complete this course during the first term of

their junior year. Prerequisite: Nine semester hours of history surveys including one of the freshman/sophomore-level series. Note: Students must receive a grade of C or better for credit toward completion of degree requirements.

- HIS 3382 Travel Study in History (1-3)**
Supervised investigation of relevant topics in history through travel-study abroad or within the interior of the United States
Prerequisite: Permission of Instructor
May be repeated for credit with permission of instructor
- HIS 4401 French Revolution and Napoleon (3)**
A study of absolutist-aristocratic France challenged by democratic-egalitarian ideals and revolution, including the role of Napoleon as conqueror of Europe and as propagator and destroyer of the French Revolution.
Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.
- HIS 4402 Nineteenth Century Europe 1815-1914 (3)**
A study of Europe from the Congress of Vienna to 1900, including political, social, and economic developments in various countries, the rise of nationalism and unification movements, and imperialism.
Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.
- HIS 4404 Modern Eastern Europe (3)**
This course examines political, economic, and social developments of nineteenth- and twentieth-century Eastern Europe from the Revolutions of 1848 through the collapse of the Soviet bloc and beyond. The course analyzes the impact of the disintegration of Russian, Ottoman, and Habsburg empires on inter-war Eastern Europe; examines the establishment, development, and eventual collapse of communism in the region; and explores the dynamics of post-Cold War European integration.
Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.
- HIS 4405 Old South (3)**
An examination of the cultural, political, religious, and economic trends that shaped the colonial and antebellum South and the Civil War which ended that era.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4406 New South (3)**
An examination of the political, social, racial and religious trends and policies that defined the New South. Topics include reconstruction, redemption, agrarian unrest, Jim Crow, industrialization, Progressive Movement, World War I, the Great Depression, World War II, and the Civil Rights Movement.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4407 Jacksonian America (3)**
A study of the emerging American nation. Topics will include Jeffersonian and Jacksonian democracy, the market revolution and slavery, the Second Great Awakening, and rise of reform movements, Manifest Destiny and the Mexican War.
Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.
- HIS 4409 Infectious Diseases and History (3)**
The courses provides a study of the causes and effects of infectious diseases on major events in human history from the Neolithic revolution to the present. A selected case study will be presented.
Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.
- HIS 4410 Gender, Health, and History (3)**
Explores the historical relationships between sex, gender, and medicine in the western world and improves students' cultural and historical literacy, understanding of major health issues in the health professions, the role of gender and sex in medicine and culture, and the diversity of medical and social practices.
Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.
- HIS 4411 Colonial America (3)**
Study of the colonial period from European discovery to the end of the French and Indian War, with emphasis on the political, economic, and social developments that set the stage for the American Revolution.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4412 American Revolution and New Nation (3)**
Ideas and institutions which led to American independence, the creation of an American union, and the development of a distinctive American culture in the period preceding 1800.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4413 Sectionalism, Civil War, and Reconstruction (3)**
Examines territorial expansion, slavery, and sectional strife, and the resulting Civil War and Reconstruction.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4414 Rise of Industrial America, 1877-1920 (3)**
Examines the period in American History between 1877 and 1920. Topics covered include the results of Reconstruction, the development of the New South, agricultural decline and crisis, industrialization and urbanization, Progressive Era reform, the growth of America as a world power, and the causes and effects of World War I.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4415 Post World War II America (3)**
Examines the political, economic, and cultural themes in American history from 1945 to the present. Topics covered include the effects of World War II, the origins and development of the Cold War, the Civil Rights Movement, the social movements of the 1960s and 1970s, the Vietnam War, the economic and political crises of the 1970s, the rise of conservatism in the 1980s, and the effects of America's rise to superpower status.
Prerequisites: HIS 1111 and 1112 or permission of instructor.
- HIS 4419 World War II (3)**
This course explores the Second World War in its global context from its origins to its conclusion. We will examine the causes, conduct, and consequences of the war, the personalities involved, and the influence the war has had on the modern world. Both the European and Pacific Theatres will be examined, as will the home front. Emphasis will be

placed on the political, military, and social developments during the war.

Prerequisites: HIS 1101/1102 or HIS 1111/1112 or HIS 1122/1123 or permission of instructor.

HIS 4420 History of American Minorities (3)

Study of selected ethnic, racial, cultural, social, and religious minorities, their treatment within and their contributions to American society.

Prerequisites: HIS 1111 and 1112 or permission of instructor.

HIS 4421 African-American History (3)

An introduction to the history of African Americans from the 17th century to the present, including slavery, Civil War and emancipation, legalized discrimination, and the struggles for equality in present day American society.

Prerequisite: HIS 1111 and 1112 or permission of instructor.

HIS 4422 Gender History in America (3)

An introduction to the history of gender in America from the 17th century to the present, exploring the major economic, religious, social, and political ideas and developments which have shaped conceptions about gender in American history.

Prerequisites: HIS 1111 and 1112 or permission of instructor.

HIS 4423 History of American Foreign Relations (3)

A study of the factors, forces, and functions in the making of American foreign policy from the 1760s to the present.

Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.

HIS 4425 Introduction to Public History (3)

Introduces students to the field of public history and addresses the relationship of applied and academic history, the major debates in the discipline, and provides an overview of public history's subfields and historic traditions.

HIS 4426 Arab-Israeli Conflict (3)

This course surveys the origins, development, and prospects for the future in the long-standing conflict between the Arabs and Israelis. Attempting to place the developing conflict within the wider context of the history of the Middle East from the late 18th century to the modern era, as well global politics, we will discuss some of the most important developments, issues and contention that are made surrounding this highly charged issue.

Prerequisites: HIS 1101/HIS 1102 or HIS 1122/1123 or permission of instructor.

HIS 4430 Civil Rights Movement (3)

Study of the origins of the Civil Rights Movement in the late nineteenth and twentieth centuries, the beginnings of change in the 1930s and the World War II era, and the movement itself as defined by legal, political, and social conflict and change from the latter 1940s to the present.

Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.

HIS 4431 The Vietnam War (3)

A study of the period 1946 to 1975 in Indochina with emphasis on American involvement in the region as part of the larger Cold War context. The course draws heavily on the new historiography of the Vietnam War that has emerged following the collapse of the Soviet Union and is based on newly declassified documents from the western world

(especially the United States), Vietnam, China, Russia, and the former socialist camp.

Prerequisites: HIS 1111 and 1112 or permission of instructor. Note: may be used for political science credit.

HIS 4433 Modern Russia (3)

The development of the revolutionary movements and tsarist reform attempts, World War I, revolutions of 1917 and the Bolshevik victory, establishment of the Stalinist state, World War II, the Cold War, Soviet domestic problems, and the disintegration of the USSR.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4437 Interwar and World War II America (3)

A study of America in the years between the end of World War I and the end of World War II. Topics will include cultural and economic changes during the 1920s, the causes and effects of the Great Depression, the programs of the New Deal, and the diplomatic, culture, and social causes and effects of World War II.

Prerequisites: HIS 1111 and HIS 1112 or permission of instructor.

HIS 4438 The Cold War (3)

This course explores the history of the Cold War, focusing on its origins, the major events (the Korean War, the Cuban Missile Crisis, the Vietnam War, the Berlin Crises, and so on), and the collapse of the Soviet Union. The emphasis of the course is placed on analyzing newly available primary documents from the Western and former communist sources and their impact on previous Cold War historiography.

Prerequisites: HIS 1101 and HIS 1102 or HIS 1111 and HIS 1112 or HIS 1122 and HIS 1123 or permission of the instructor.

HIS 4441 American Constitutional Development (3)

A study of the American constitutional system with emphasis upon its origin and evolution via amendments and Supreme Court decisions.

Prerequisites: HIS 1111 and 1112 or permission of instructor. Note: May be used for political science credit.

HIS 4443 Late Antiquity (3)

Study of developments in the Mediterranean and Europe during the third through eighth centuries, including the fall of the Roman empire and the rise of barbarian kingdoms. The course examines the interrelatedness of economics, politics, warfare, and religion in shaping late ancient societies.

Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.

HIS 4444 The Crusades (3)

Study of the origins and execution of the series of religious wars called the crusades. In addition to analyzing the various campaigns, the course also examines the phenomenon in the context of the social and cultural conditions in medieval Europe, Byzantium and Islam.

Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.

HIS 4447 The Holocaust (3)

An examination of the Holocaust, from medieval origins of antisemitism to the persecution of the Jews in the 1930's, resulting in the Final Solution of the 1940's. This course will focus on the implementation of the Nazis' anti-Semitic politics

and the responses of other nations to the Holocaust, examining the roles of victims, perpetrators, and bystanders. The course will also survey the impact of the Holocaust on the world today.

Prerequisites: HIS 1101 and HIS 1102, or HIS 1122 and HIS 1123, or permission of the instructor.

HIS 4448

The West in American History

Study of the history of the American West from European contact to the present. Topics will include the role of the US government, the effects of American expansionism on immigrants and indigenous populations, and struggles over resources and territory.

Prerequisites: HIS 1111 and 1112 or permission of instructor.

HIS 4449

History of Nazi Germany (3)

An examination of Adolph Hitler and the Nazi Party from their origins in the aftermath of World War I, through their rise to power to defeat of the regime in 1945. The course will focus on how the Nazis came to power and what they did when they achieved it: their policies and practices, collaboration and resistance to the Nazis, and ramifications of Nazi rule. The course will also address why such an advanced country as Germany would support such regime.

Prerequisites: HIS 1101 and HIS 1102, or HIS 1122 and HIS 1123, or permission of the instructor.

HIS 4450

Environmental History of the U.S. (3)

An introduction to environmental history of the United States from the 18th century to the late 20th century, emphasizing the post-World War II period. The course will focus on the historical development of the science of ecology, the origins of environmental problems and solutions attempted by government and experts, as well as responses by grassroots activists over time.

Prerequisites: HIS 1111 and 1112 or permission of instructor.

HIS 4451

Modern East Asia

Study of the development and interaction of Chinese, Japanese, and Korean civilizations, the impact of Western cultures, twentieth-century conflicts, resolutions and accommodations.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4452

History of the Medieval Middle East (3)

This course covers the Middle East from the time of the birth of Islam through the founding of the Ottoman Empire in 1517. This class will provide a thematic treatment of issues like historiography, religious division, slavery, gender, and the status of Jewish and Christian communities under the Islamic Caliphs and Sultans.

Prerequisites: HIS 1101 and 1102 OR HIS 1122 and 1123 or permission of instructor.

HIS 4453

History of the Modern Middle East (3)

This course covers the Middle East from Napoleon's invasion of Egypt through the present day, covering the 19th Century, Zionism, the fall of the Ottoman Empire, the Arab-Israeli Conflict, and the colonial and postcolonial periods.

Prerequisites: HIS 1101 and 1102 OR HIS 1122 and 1123 or permission of instructor.

HIS 4462

Age of Absolutism (3)

Survey of political and religious controversies that shaped affairs in Europe during the 16th and 17th centuries, emphasizing the cataclysmic developments in scientific, political, humanitarian,

and economic thought that prepared the way for the rise of democracy in both the old and the new world.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4463

Europe in the Age of Enlightenment (3)

Survey of European history in the 18th century, emphasizing developments in society, politics, economics, and culture. The course will broadly emphasize the changing nature of authority in the 18th century from the beginning of the century until 1789- the year of the French Revolution.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4464

England to 1688 (3)

A survey of English history from the Anglo-Saxons to the Glorious Revolution, emphasizing the interaction of geographical, political, economic, and cultural forces which shaped England as a monarchy.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4465

England from 1688 (3)

The final evolution of the English political system from the reign of William and Mary to the contemporary era, including social and economic transformations, the British Empire, the two world wars, the welfare state, and current issues.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4466

Renaissance and Reformation (3)

Historical review of the transitional centuries bridging the medieval and the modern eras, including the rebirth of art and literature, the Protestant and Catholic reform movements, and the role of kings and states.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4467

Medieval Europe (3)

Western Europe from the fall of Rome to the Renaissance, including religious and intellectual traditions and the revival of governmental institutions.

Prerequisites: HIS 1101 and 1102 or HIS 1122 and 1123 or permission of instructor.

HIS 4468

Europe in the World Wars, 1914-1945 (3)

The course explores Europe from the beginning of the First World War through the end of the Second World War, with examination of the causes, conduct, and consequences of World War I, the interwar period, the growth of fascism and totalitarian regimes, and the outbreak and effects of World War II. Emphasis will be placed on the political, military, economic, and social developments of the European continent during this period.

Prerequisites: HIS 1101 and 1102 OR HIS 1122 and 1123 or permission of instructor.

HIS 4469

Europe since World War II (3)

The course explores political, military, economic, and social developments of Europe after World War II, including the reconstruction and division of Europe, the rise and the end of the Cold War, the establishment and collapse of communism, division of Germany, military alliances, the European Community, and the efforts towards European integration.

Prerequisites: HIS 1101 and 1102 OR HIS 1122

and 1123 or permission of instructor.

HIS 4474 Internship in History Education (9)
 The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454.

HIS 4481 Methods and Materials for the Secondary Teacher (3)
 A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of history/social science materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.

HIS 4486 The Caribbean (3)
 A history of the Caribbean region from pre-Columbian times to the present. Topics will include the indigenous population, European colonialism and its legacy, the impact of slavery and racial diversity in the region, cultural and political revolutions, and the area's relationship with the United States.
Prerequisites: HIS 1101 and HIS 1102 or HIS 1122 and HIS 1123 or permission of the instructor.

HIS 4490 Senior Seminar in History (3)
 The capstone course for history majors which synthesizes students' course work through research, historiography, writing, speaking, and reading comprehension.
Prerequisites: senior standing at all institutions and HIS 3375. Note: Students must receive a grade of "C" or better for credit toward completion of degree requirements.

HIS 4491-92 Guided Independent Research (1 to 3 credit hours)
 Additional information is indexed under Independent Study and Research.

HIS 4493-94 Guided Independent Study (1 to 3 credit hours)
 Additional information is indexed under Independent Study and Research.

HIS 4495 Selected Topics in History (3)
 Historical examination of a designed topic of special and/or current interest and importance, which is generally not covered in regularly offered courses by the department.
Prerequisites: Applicable survey courses or permission of instructor.

HIS 4498 Honors-Independent Study (1 to 3 credit hours)
 Advanced research and study for outstanding students in their major field. Culminates in report to a departmental committee that includes invited faculty members in related fields.

Prerequisite: Senior level and 3.5 overall grade point average. Permission of guiding professor and approval of department chair and the dean of arts and sciences. A written request must be submitted to the department chair at least six weeks in advance of the semester the research is to be undertaken.

HIS 4499 Internship in History (1-3 credit hours)
 Supervised work in an agency that can provide practical experience in the field of study.
Prerequisites: senior standing, at least 2.5 GPA, 12 hours in upper-division courses in the field, and permission of supervising instructor, department chair and/or dean. Course may be repeated for credit with permission of instructor.

HEALTH COURSES (HLT)

HLT 4481 Methods and Materials for the Secondary Health Educator (3)
 Teaching methods, selection, organization and use of health education materials in grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson plan formatting. A professional laboratory experience is included in this course.
Prerequisite: admission to the Teacher Education Program.

UNIVERSITY HONORS PROGRAM COURSES (HON)

Please see the index for additional information regarding the University Honors Program.

HON 1101 Freshman Honors Colloquium (3)
 The first in a series of interdisciplinary seminars for University Honors Program candidates, combining class work with focus on the humanities, social sciences, natural sciences, attendance at campus and community events, and University Honors Program student activities.
Prerequisite: admission as a candidate for University Honors Program in fall semester of the freshman or sophomore year.

HON 2200 University Honors Special Topics: Interdisciplinary I (3)
 A one-semester course for students who have been accepted into the University Honors Program via the PEAK program and completion of the requirements for candidacy. Interdisciplinary topics are determined in advance by the Honors Council and the honors director.

HON 3300 University Honors Special Topics: Interdisciplinary II (3)
 A one-semester course for students who have been accepted into the University Honors Program via the PEAK program and completion of the requirements for candidacy. Interdisciplinary topics are determined in advance by the Honors Council and the honors director.
Prerequisite: HON 2200 or permission of the honors director.

HON 4491 Department Honors Guided Independent Research I (1-3)
 Additional information is listed under Independent Study and Research.

HON 4492 Department Honors Guided Independent Research II (1-3)
 Additional information is listed under Independent Study and Research.

- HON 4493 Department Honors Guided Independent Research III (1-3)**
Additional information is listed under Independent Study and Research.
- HON 4494 Department Honors Guided Independent Research IV (1-3)**
Additional information is listed under Independent Study and Research.
- HON 4498 Department Honors Thesis or Project (3)**
Independent study with honors-level credit within the student's major department. See departmental offerings in English and history.

HUMAN RESOURCE MANAGEMENT COURSES (HRM)

- HRM 3375 Global Human Resource Management (3)**
A survey of the roles, functions, and activities of human resource management including job analysis, job design, recruiting, selection, placement, training and development, compensation, employee and labor relations, and current issues in both the domestic and global environments.
Prerequisite: Lower-level Core, MGT 3300.
- HRM 3376 Honors Global Human Resource Management (3)**
A survey of the roles, functions, and activities of human resource management including job analysis, job design, recruiting, selection, placement, training and development, compensation, employee and labor relations, and current issues in both the domestic and global environments for the superior students.
Prerequisite: Lower-level Core, SCOB Honors Student, and permission of the Associate Dean.
- HRM 4455 Employment Law (3)**
A study of the major employment laws and related regulations as they apply to the private sector.
Prerequisite: Lower-level Core.
- HRM 4473 Labor Law and Collective Bargaining (3)**
A study of court decisions, national labor, administrative regulations, and procedures of the National Labor Relations Board that guide effective approaches to collective bargaining and labor relations.
Prerequisite: Lower-level Core.
- HRM 4481 Staffing (3)**
Addresses theory, principles, practices, and legal requirements for effective recruitment, selection, and promotion in organizational settings.
Prerequisite: Lower-level Core.
- HRM 4482 Managing Health, Safety and Diversity (3)**
This course addresses the theory, practice and legal requirements in managing employee health, safety, and cultural diversity in organizational settings.
Prerequisite: Lower-level Core.
- HRM 4483 Human Resource Development (3)**
Theory and practice in human resource training and development applied to organizational settings.
Prerequisite: Lower-level Core.
- HRM 4485 Performance Appraisal and Compensation (3) (capstone)**
Addresses theory, principles, practices, and legal requirements linking effective performance management and compensation and benefit systems in organizational settings. This is a capstone course for the Human Resource Management Concentration.
Prerequisite: Lower-level Core, HRM 4455, HRM 4481, HRM 4483.

- HRM 4496 Special Topics in HRM (3)**
This course examines a selected human resource management topic of interest that is not covered in depth in other course offerings. Prior topic approval by the Associate Dean of the Sorrell College of Business is required.
Prerequisite: Lower-level Core.
- HRM 4499 Human Resource Management Internship (3)**
The Human Resource Management Internship provides students with the opportunity to gain real-world work experience in the field of human resource management. Students gain practical, professional experience in conjunction with academic development under the supervision of both a faculty member and a supervisor within an organization. A written request must be submitted to the department chair at least two weeks in advance of the semester or term in which the study is to be undertaken.
Note: This course may not be substituted for any required course. Students may earn no more than 6 hours of internship credit.
Prerequisite: Junior or senior standing, department chair approval.

HOSPITALITY, SPORT, TOURISM MANAGEMENT COURSES (HSTM)

- HSTM 2201 HSTM Industry Fundamentals (3)**
This course provides the student with an introduction and broad understanding of professional skills including but not limited to: critical-thinking, issues analytics, business communication, and technology. All students will be introduced to fundamentals of hospitality, sport and tourism industries with emphasis toward practical tools and strategies for successful professional development and career preparation.
Prerequisite: Declared Sport Management or Hospitality, Tourism and Event Major/Minor and Instructor Approval.
- HSTM 2205 Introduction to Hospitality, Tourism and Event Management (3)**
This course is a fundamental introduction to the hospitality, tourism and event management industries with an emphasis on the role and relevance of these industries to society.
- HSTM 2210 Event Management (3)**
This course provides foundational knowledge for the event planning industry with an emphasis on practical skills and knowledge students need to succeed in the events industry.
- HSTM 2220 Tourism Management (3)**
This course provides foundational knowledge for the tourism management industry with an emphasis on practical skills and knowledge students need to succeed in the events industry.
- HSTM 2230 Hospitality Management (3)**
This course provides a foundational knowledge for the hospitality management industry with an emphasis on practical skills and knowledge students need to succeed in the hospitality industry.
- HSTM 2240 Introduction to Recreation Management (3)**
This course provides an overview of recreation on federal, state, and local levels with respect to history, program, population, facilities and trends.
- HSTM 2245 Introduction to ESPORTS (3)**
This course explores the history of the ESPORTS industry, its place in the sporting industry as well as stakeholders and their respective roles, ethical

issues, the future of ESPORTS, and careers in ESPORT. This introductory course is designed to provide a general overview of the ESPORT industry for those familiar and unfamiliar with gaming.

HSTM 2255 Introduction to Sport Management

This course is designed to introduce the student to sport management, both as an academic major and as a professional endeavor. This course will also provide a broad overview of sport management sites, functions, and sectors.

HSTM 2257 Global Hospitality, Sport, Tourism and Event Management (1-3)

This course allows students to obtain a global hospitality, sport, tourism and event management perspective by traveling and studying abroad. Classroom lectures, field trips and presentations from international hospitality, sport and/or tourism professionals and academicians will supplement the cultural experience.

Prerequisite: Permission of instructor.

HSTM 3320 Event Information, Communication, and Technology (3)

This course is designed to serve as an introduction and exploration of various common and emerging information technologies in the event management field. This course will encourage the undergraduate students interested in event planning and management to remain with contemporary developments in the field.

Prerequisite: HSTM 2210.

HSTM 3325 Experience and Design Management (3)

This course comprehensively examined theoretical and applied dimensions of experiences, experience design, and experience management. Students will learn about design, delivery, evaluation, and management of experiences in hospitality, tourism and events. This course will extend student knowledge in these areas to create and enhance customer experiences by exploring topics such as social and positive psychology, human behavior, satisfaction, motivation, awe, optimal arousal, transformation, design thinking, and the experience economy.

HSTM 3330 Festivals and Event Tourism (3)

This course provides a comprehensive overview of the festival and event tourism industry. Students will be introduced to the various types of festivals and special events as well as their personal, societal, cultural, economic, and environmental consequences. The course also explores management issues and strategies necessary to plan, organize, fund, market, stage, and evaluate tourism related festivals and events.

Prerequisite: HSTM 2220

HSTM 3335 Facility Management (3)

This course is designed to provide the student with information concerning the planning, design, organization, and administration of sport, fitness and recreational facilities.

Prerequisite: HSTM 2255

HSTM 3345 Recreation Programming (3)

This course provides the foundations of basic programming skills, methods, and techniques necessary to deliver recreational activities within a variety of settings, agencies, and organizations.

HSTM 3350 Leadership Principles in Hospitality, Sport Tourism and Event Management (3)

This course is designed to assist students in undertaking and developing a personal philosophy on leadership. Students will be required to conduct self-evaluation, examine and develop a leadership philosophy, values and moral reasoning skills. Topics explored will include but are not limited to the discussion of major leadership, moral and ethical issues in hospitality, sport, tourism and events.

Prerequisite: HSTM 2255, OR HSTM 2220, OR HSTM 2230.

HSTM 3353 Legal Aspects in Sport Management (3)

In this course the student will gain an appreciation for the legal and business matters that pertain to sport and related areas. Students will acquire working awareness and understanding of the basic legal and business responsibilities of coaches, sport managers and practitioners, along with an understanding of legal terms, concepts and issues that influence the management of programs.

Students will also develop appreciation for business elements of sport, which encroach upon the law.

Prerequisite: HSTM 2255

HSTM 3356 Business Foundations of ESPORTS Management (3)

Introduces the foundations of ESPORTS management. Students will learn the importance of industry-specific stakeholders, including title publishers, event organizers, leagues and sponsors, and take an in-depth look at the unique opportunities and challenges of ESPORTS and marketing, communications, financial impacts, and legal concerns.

HSTM 3357 Case Studies in ESPORTS (3)

Explores contemporary and ethical issues relating specifically to gaming. Students analyze case studies and articles pertaining to issues surrounding health, exploitation, oppression, and representation in online games. This course encourages students to think critically about ESPORTS as a professional, social, and cultural endeavor, and to prepare themselves to be ethical and responsible professionals in the ESPORTS industry.

HSTM 3358 ESPORTS Performance (3)

This course examines ESPORTS performance from a holistic perspective. Topics will range from coaching and player strategies related to trending games, functionality of games via varying platforms, as well as physical and mental health topics, all with an emphasis at garnering a better understanding of techniques that enhance or diminish ESPORTS performance.

HSTM 3359 Shoutcasting (3)

Students learn the basics of broadcasting ESPORTS competitions and productions, such as play-by-play, how to provide in-depth analyses, pre-production research, transitions and overall storytelling.

HSTM 3365 Research Methods in Hospitality, Sport Tourism and Event Management (3)

The purpose of this course is to provide undergraduate students with a fundamental understanding of the research and evaluation process in hospitality, sport and tourism industries. The course is intended to familiarize students with research and evaluation principles, concepts,

methods, techniques, and application that can be applied in a wide variety of leisure settings.

Prerequisite: HSTM 2255, OR HSTM 2230, or HSTM 2220.

HSTM 3374 Resort and Hotel Management (3)

This course is designed to provide the student with a comprehensive overview of all aspects of hotel, resort, and vacation rental operations, specifically focusing on facility design, revenue management, rooms, housekeeping, safety and security, engineering, and sales.

Prerequisite: HSTM 2230.

HSTM 3377 Domestic and International Tourism (3)

This course examines the tourism industry from a domestic and international perspective. Students will analyze the domestic tourism market and international tourism market. Students will also be exposed to various tourism segments which may include: cultural tourism, heritage tourism, sport tourism, eco-tourism, adventure tourism and others.

Prerequisite: HSTM 2255.

HSTM 4410 Tourism Economics (3)

This course examines the fundamental economic principles as they apply to the tourism industry. Students will be exposed to the application of various economic analyses to tourism and will also examine the impacts of tourism on regional and national economies.

Prerequisite: HSTM 2255.

HSTM 4414 Sustainability in Hospitality, Tourism and Event Management (3)

This course covers the management of sustainable hospitality, tourism and event management through decision making on the economic, social, and environmental ("triple bottom line") sustainability of actual cases from these industries. The course comprehensively examines the theoretical and applied dimensions of contemporary sustainable hospitality, tourism and event management for a local to global perspective.

Prerequisite: HSTM 2220.

HSTM 4415 Tourism Impacts and Planning(3)

This course concentrates on the study of tourism impacts, both positive and negative, ranging in scope from the local to the global. Students will be exposed to a range of environmental, economic, socio-cultural and political issues and impacts at the local, regional, national, and international level.

Prerequisite: HSTM 2255.

HSTM 4417 Current Issues in Tourism (3)

This course is designed to serve as a mechanism for the introduction of new information and technology issues for the tourism industry. This course will encourage the undergraduate student in tourism management to remain current with contemporary developments in the tourism industry.

Prerequisite: Senior Standing.

HSTM 4418 Tourism Development and Planning (3)

This course provides an introduction to the nature and scope of tourism planning and development at the local, regional, and national levels. Topics to be addressed include economic, social, environmental, and policy considerations within the sustainable development framework. This course also discusses planning and development guidelines to be considered in different geographical areas.

Prerequisite: HSTM 2255.

HSTM 4419 Community-Based Tourism (3)

This course concentrates on the use of the tourism industry to positively enhance community economic, social, environmental, and institutional domains. Students will learn theoretical and practical tools to use tourism to enhance areas including: quality-of-life, social capital, economic development, governance, and stewardship of natural resources. Students will then learn how to extend and enhance the capacities of these variables within tourism systems to strengthen communities that interact and depend on the tourism industry.

Prerequisite: Senior Standing.

HSTM 4420 Hospitality, Tourism and Event Management Finance (3)

This course investigates principles, concepts, and current trends in financial and revenue management as related to the hospitality, tourism and event industries.

Prerequisite: HSTM 2205.

HSTM 4423 Current Issues in Hospitality, Tourism and Event (3)

This course is designed to serve as a mechanism for the introductions of new information and technology issues for the hospitality, tourism and event industries.

Prerequisite: Junior or Senior Standing.

HSTM 4425 Human Resource Management in Hospitality, Tourism and Events (3)

This course focuses on a decision-making process that affects the performance, quality, and legal compliance of the hospitality, tourism and event industries. Beginning with a foundation of the hospitality, tourism and event industry, employment law, and HR policies, this course will further explore recruitment, training, compensation, performance appraisal, environmental and safety concerns, ethics and social responsibility, and special issues.

Prerequisite: HSTM 2205.

HSTM 4428 Legal Aspects in Hospitality, Tourism and Event Management (3)

This course provides coverage of legal issues in hospitality, tourism and events, including those associated with hotels, restaurants, transportation, travel agents, tour operators, gaming, mixed-use, and timeshare properties.

Prerequisite: HSTM 2205

HSTM 4430 Sport Marketing (3)

This course is designed to introduce the student to marketing principles and practices that are used in the specialized application of sport marketing. This course will also encourage students to consider how traditional marketing strategies may be applied to this substantial and growing industry.

Prerequisite: HSTM 2255.

HSTM 4431 Analytics in Hospitality, Sport, Tourism and Event Management (3)

The purpose of this course is to introduce students to the various applications of analytics in the hospitality, sport, tourism and events industries and how these applications lead to data-driven decision-making. Students will become comfortable with coding in the programming language of R to perform analytic functions.

Prerequisites: HSTM 2255, OR HSTM 2205.

HSTM 4435 Current Issues in Sport Management (3)

This course is designed to serve as a mechanism for the introduction of new information and technology issues for the sport industry. This course will encourage the undergraduate sport management student to remain current with contemporary developments in the sport industry.

Prerequisite: Senior Standing.

HSTM 4440 Governance and Policy in Sport (3)

This course is designed to provide the student with information concerning basic structure and governing principles of various sport agencies. The course will include, but is not limited to, an examination of the National Collegiate Athletic Association, National Association of Intercollegiate Athletics, and national and international professional sports leagues. In addition, students will be introduced to the importance of policy development in the areas of finance, human resources, facility use and control, equipment, travel, public relations, and risk management.

Prerequisite: HSTM 2255.

HSTM 4443 Case Studies in Sport Management(3)

This course is designed to provide sport related cases containing actual and/or hypothetical facts/fact patterns, historical context, data, and related information to undergraduate students. Students are charged with assessing the situation, generating and analyzing potential solutions, and identifying optimal solutions to the problems presented in the case. Students are exposed to the issues facing sport organizations, and how management techniques can be applied to solve business problems. In addition, students will develop effective written and oral communication skills critical to success in the sport industry.

Prerequisite: Permission of instructor.

HSTM 4450 Event Management in Hospitality, Sport and Tourism Management (3)

This course is designed to give advanced students the opportunity to plan, prepare and administer leisure-related events, thus providing students with practical experiences in hospitality, sport and tourism management. Students will gain experiences in event management, including planning, organizing, implementing, evaluating, directing personnel, securing sponsorships and marketing for multiple events.

Prerequisite: Permission of instructor

HSTM 4451 Sport Finance (3)

This course is designed to provide the student with information concerning the basic theories of finance as applied to managerial control of sport organizations. Included are forms of ownership, financial analysis, financial issues in the sport industry, and economic impact studies.

Prerequisite: HSTM 2255

HSTM 4452 Communication in Hospitality, Sport, Tourism and Event Management (3)

This course is designed to provide the student with a fundamental understanding of community, media, and public relations in the hospitality, sport, tourism and event industries with a special focus on message development, image building, and crisis management.

Prerequisite: HSTM 2205

HSTM 4462 Hospitality, Tourism, and Event Marketing (3)

This course is designed to introduce the student to marketing principles and practices of hospitality,

tourism, and events. The course will review terminology, systems, techniques, and processes that are used in the specialized application of hospitality, tourism and event marketing. This course will also encourage students to consider how traditional marketing strategies may be applied to these substantial and growing industries.

Prerequisites: HSTM 2205.

HSTM 4465 Hospitality, Tourism and Event Industries (3)

This course provides students with the study of basic and exceptional service throughout the various hospitality, tourism and event industries.

Prerequisite: HSTM 2230

HSTM 4466 Food and Beverage Management (3)

This course examines the practical application of managerial skills necessary for food service operations, specifically focusing on facility design, equipment usage, food safety, cost controls, and operational function.

Prerequisite: HSTM 2230

HSTM 4468 Recreation Administration (3)

This course is designed to provide the student with a comprehensive understanding of the management and administration of leisure and recreation organizations. This course will emphasize leadership roles of administrators, human resource management, budgeting and financial management, marketing, communication, technology, and facility planning and operations.

Prerequisites: HSTM 2240 and HSTM 3345

HSTM 4470 Revenue Generation in Hospitality, Sport, Tourism and Event Management (3)

This course will provide professional sales techniques needed to form a framework for revenue generation in the hospitality, sport, tourism and event industries. Students will examine the foundations, theory, and framework associated with sales, and the dynamics associated with building and fostering relationships necessary for a vibrant client base.

Prerequisites: HSTM 4462 or HSTM 4430.

HSTM 4480 Event Planning and Operation (3)

This course is an in-depth look at the skills and knowledge required to develop, plan, and execute events. This course is designed to extend beyond basic planning functions and develop core competencies including: strategic planning, project management, risk management, financial management, administration and HR management, site selection, marketing, and event design.

Prerequisite: Instructor Approval Required

HSTM 4485 Practicum I (3)

The practicum opportunity is designed to provide practical experiences for hospitality, sport, tourism and/or event industries. The practicum allows the student to develop and mature through exposure to and practical experience with a variety of tasks under the guidance of trained, established leaders in the field. This is a supervised learning experience with an approved hospitality, sport, tourism, or event service agency, organization, or institution.

Prerequisite: Instructor Approval Required

HSTM 4485 Practicum II (3)

The practicum opportunity is designed to provide practical experiences for hospitality, sport, tourism and/or event industries. The practicum allows the student to develop and mature through exposure to and practical experience with a variety of tasks

under the guidance of trained, established leaders in the field. This is a supervised learning experience with an approved hospitality, sport, tourism, or event service agency, organization, or institution.
Prerequisite: Instructor Approval Required

HSTM 4488 Internship I in Hospitality, Sport, and Tourism Management (3)

A supervised experience in planning, staging, and evaluating a formal practicum in related field. This is the first term in a two term internship experience.
Prerequisite: Permission of internship coordinator and Troy Online home location.

HSTM 4489 Internship II in Hospitality, Sport, and Tourism Management (3)

A supervised experience in planning, staging, and evaluating a formal practicum in related field. This is the second part in a two part internship experience.
Prerequisite: HSTM 4488 and permission of internship coordinator, and Troy Online home locator.

HSTM 4490 Internship in Area of Concentration (6)

A supervised experience in planning, staging, and evaluating a formal practicum in related field.
Prerequisite: Permission of Instructor and Troy campus-home location.

HSTM 4491/92 Guided Independent Research (3)

Additional information is indexed under Independent Study and Research.

HSTM 4493/94 Guided Independent Study(3)

Additional information is indexed under Independent Study and Research.

HSTM 4499 Senior Seminar (3)

Students enrolled in this capstone course will examine trends, career paths, and discuss current topics in the hospitality, sport tourism and event industries. Students will engage in several mock professional experiences and demonstrate their enhanced understanding of their respective field.
Prerequisite: Senior Standing and permission of instructor..

HUMAN SERVICES COURSES (HS)

HS 2230 Survey of Human Services (3)

A survey of the major human service delivery systems to include historical development, populations served, professional roles, and interrelationships between targeted social problems and services delivered. Introduction to the ecological/systems perspective as a tool for understanding these relationships. Includes observations and field trips.

HS 2240 Ethics in the Helping Profession (3)

Ethical decision-making and skill development within the helping professions.

HS 2250 Fundamentals of Case Management (3)

This course will introduce the foundation of case management to include the process of assessment, planning, facilitation, care coordination, evaluation, documentation and advocacy of options and service. Case studies will be utilized to facilitate practical application.

HS 2260 Introduction to Non-Profit Organizations (3)

This seminar in non-profit organizations is designed to aid helping professional students develop a basic understanding and knowledge of the history, operation, and structure of non-profit organizations. Will include management, grant writing, and leadership roles.

HS 3300 US Justice and the Helping Profession(al) (3)

This course will explore historical and current issues in the US justice system that have resulted in the marginalization of disadvantaged populations, who typically enter into this system. It will provide an overview of the US justice system and how it interests with human services and social work. Specifically, the focus will be an exploration of the juvenile and adult justice systems as well as policies and strategies shown favorable in the promotion of social justice and advocacy on behalf of those within the justice system. This class is designed for the student who has a desire to understand how helping professions (social work, human services, rehabilitation) and the US justice system are relevant to each other. This course is advantageous with or without future plans of working in the criminal justice system.

HS 3310 Human Behavior In the Social Environment I (3)

The biopsychosocial aspects of human growth and development throughout the life cycle. Emphasis is placed on understanding the individual in interaction with major social systems. Knowledge, skill, and value bases necessary for biopsychosocial assessment are built.

HS 3325 Wellness Across the Lifespan I (3)

Introductory examination of several aspects of wellness to include nutrition, physical activity, and mental wellness, from birth to young adulthood. This course exposes the student to resources related to a wellness plan.

HS 3335 Wellness Across the Lifespan II (3)

Introductory examination of several aspects of wellness to include nutrition, physical activity, and mental wellness, adulthood to death and dying. This course exposes the student to resources related to a wellness plan.

HS 3370 Professional Communication in the field of Human Services (3)

Principles and techniques of interviewing for human services professionals. Major emphasis is the building of empathic skills.

HS 3375 Practicing Culotural Competency (3)

This course provides students with an understanding and appreciation of cultural diversity, ethnic and gender sensitivity, as well as ageism, in social work practice with a variety of populations is highlighted.

HS 3380 Human Services Study Abroad (3)

Students will study abroad and engage in service learning opportunities in another culture. Students will develop an understanding of the economy, culture, customs and human services practices of the country while observing and engaging in direct human service practice.

Prerequisites: successful completion of Troy Study Abroad Program requirements and fees.

HS 3399 Pre-Practicum Seminar (3)

This course will evaluate the student's ability (knowledge, values, and skills) required to begin Human Service Field Experience. The class will focus upon areas essential for competent human service practice, including social policy and contemporary topics. Human Services majors must complete this course with a grade of "C" or better.
Prerequisite: Completing of HS Major requirements. The practicum site must be approved.

HS 4400 Human Service Field Experience (3)

Provides experiences in a variety of social and human services settings with an emphasis on the multiple natures of human problems and the impact these problems have on the disabled and disadvantaged. Includes a weekly seminar plus a minimum of 120 clock hours per course hour spent

- in a particular agency for HS 4400 I (3) and HS 4410 II. For HS 4420 III (6) it is 240 clock hours. Clinical hours and responsibilities will be determined by internship supervisor. Human Services majors must complete this course with a grade of C or better.
Prerequisites: Senior level, HS 2230, HS 3370 and HS 3399 or permission of instructor.
- HS 4410 Human Service Field Experience II (3)**
Provides experiences in a variety of social and human services settings with an emphasis on the multiple natures of human problems and the impact these problems have on the disabled and disadvantaged. Includes a weekly seminar plus a minimum of 120 clock hours per course hours spent in a particular agency for HS 4400 I (3) and HS 4410 II. For HS 4420 III (6) it is 240 clock hours. Clinical hours and responsibilities will be determined by internship supervisor. Human Services majors must complete this course with a grade of C or better.
Prerequisites: Senior level, HS 2230, HS 3370 and HS 3399 or permission of instructor.
- HS 4420 Human Service Field Experience III (6)**
Provides experiences in a variety of social and human services settings with an emphasis on the multiple natures of human problems and the impact these problems have on the disabled and disadvantaged. Includes a weekly seminar plus a minimum of 120 clock hours per course hour spent in a particular agency for HS 4400 I (3). For HS 4420 III (6) it is 240 clock hours. Clinical hours and responsibilities will be determined by internship supervisor. Human Services majors must complete this course with a grade of C or better.
Prerequisites: Senior level, HS 2230, HS 3370 and HS 3399 or permission of instructor.
- HS 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- HS 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.

INTEGRATED ARTS COURSES (IA)

- IA 1150 Integrated Arts and the Creative Habit (1)**
Discover the Integrated Arts approach to developing creative habits. Engage not only your curiosity and imagination, but also discover new ways of working and connecting through active innovation, boundary-crossing, challenging assumptions, and moving beyond inhibitions.
- IA 2235 Creative Collaborations, Teams, and Partnerships (2)**
Work dynamically together and achieve more. Students explore collaborative ideas and experiment with hands-on application of new communication skills and tools. Emphasis on creative thinking and problem-solving, role play within different types of teams, partnerships, and collaborative groups. Learn how to lead or enrich your participation in creative ventures of any kind.
- IA 3335 Integrated Arts Concept and Design (2-3)**
Students collaborate in the design and conceptual development of a unique creative production or project with a focus on multidisciplinary work and innovative integration of arts with other areas and disciplines. Outcomes aimed at public presentation and/or service.
May be repeated for credit

- IA 3340 Integrated Arts Production (1-3)**
Students collaborate in the process for unique creative production or project with a focus on multidisciplinary work and innovative integration of arts with other areas, disciplines, and enterprises culminating in public presentation and/or service.
May be repeated for credit.
- IA 3365 Special Topics in Integrated Arts (1-3)**
Examination of selected topics not included in the established curriculum, with emphasis on topics and approaches of a multi-disciplinary nature.
May be repeated for credit.
- IA 3366 Special Topics in Integrated Arts (1-3)**
Examination of selected topics not included in the established curriculum, with emphasis on topics and approaches of a multi-disciplinary nature.
May be repeated for credit.
- IA 4496 Integrated Arts Internship (3-6)**
In this individualized internship, students work with an organization, business, or enterprise to engage in creative problem-solving in a professional setting, utilizing the arts integration process and skill sets. Expectations for collaborative goal-setting and measurable beneficial outcomes in partnership with host(s) and other stakeholders.
Prerequisites: Permission of instructor and IA advisor

INTERDISCIPLINARY STUDIES COURSES (IDS)

- IDS 1101 Global Challenges (3)**
Students will build knowledge and skills for globally competent citizenship and public service to address global challenges (population, resources, technology, information, economics, governance) faced in the 21st century.
- IDS 2200 Crossroads: Sophomore Interdisciplinary Seminar in Creative Thinking (3)**
This seminar examines specific academic themes from a variety of interdisciplinary perspectives that reach across the human, natural, and social sciences. By capitalizing on the distinctive methodologies offered by faculty members from different academic disciplines, the seminar involves students and faculty in creating original approaches to course.
- IDS 2201 Applications in Public Service (3)**
An overview of strategies for civic enrichment that engage various forms of community capital (social, religious and governing institutions, citizens, and business/economic interests) to address defined civic issues. Focus is given to diagnosing civic issues, developing and implementing an intervention and evaluating its impact.
- IDS 2230 International Engagement**
This course is designed to introduce and connect international students to life and culture in the United States at Troy University. The class explores variety of topics central to being a new international student including the history, geography, and culture of the U.S.; navigating various systems at the university and the U.S. (transportation, medical, employment, and campus resources); and interpersonal qualities and skills for success as an international student.
- IDS 3305 Study Abroad through Partnerships**
This course acts as a placeholder for students studying abroad. Students studying abroad for a semester or longer through a Troy University exchange partner should be registered for this course by the Study Abroad Coordinator in the TroyAbroad Office.
Prerequisites: completion of TroyAbroad advising and application process.

IDS 3310 Principled Public Service in a Modern Age (3)
This course concentrates on exploring ethical practices when individuals come together and address social problems in their communities. Emphasis will be on ethical leadership in the context of teamwork, participatory decision-making, and citizen empowerment.
Prerequisites: IDS 1101 and IDS 2201.

IDS 3315 Systems and Structures of Public Service (3)
Students will learn basic principles of public management and administration, including history and development, organizational structures, and modern functions of public service organizations and advocacy efforts.
Prerequisites: IDS 1101 and IDS 2201.

IDS 4410 Social and Policy Entrepreneurship (3)
This course introduces students to social and policy entrepreneurship through case studies, key readings, and primary information resources. The class will explore the sources of funding for social enterprises, such as philanthropy, governmental funding, grant writing, as well as income generating, self-sustaining arrangements that promote long-term change.
Prerequisites: IDS 1101 and IDS 2201.

IDS 4495 Capstone Experience in Public Service and Civic Engagement (3)
300 hour field experience internship based at a community agency, healthcare facility, school or government agency focused on application of student's personal plan for community engagement and public leadership. Through the course, students will build applied public leadership skills and use various applications and strategies for civic enrichment.

INTERDISCIPLINARY EDUCATION COURSES (IED)

IED 4454 Internship Seminar for Interdisciplinary Education (3)
This course provides seniors an opportunity during internship to examine broad educational issues and concerns, topics on the state and local levels, and those of personal interest. The scope of the course ranges from juvenile law, classroom management professionalism, professional development for teachers and other course topics.
Prerequisite: admission to TEP.
Co-requisite: IED Internship.

IED 4472 Internship in Grades P-12 (9)
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: IED 4454.

IED 4491-92 Guided Independent Research (1 to 3 credit hours)
Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.
Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to

repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."

IED 4493-94 Guided Independent Study (1 to 3 credit hours)
Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: Junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

INFORMATION SYSTEMS COURSES (IS)

IS 2241 Computer Concepts and Applications (3)
This course introduces productivity and social media applications in personal and professional development. Topics include the practical and ethical use of information technology and digital resources for improved organization, communication, and collaboration.

IS 3310 Introduction to Information Systems & Data Analytics (3)
An introduction of information systems, their roles, and practical application in a digital business environment. Topics discussed include the fundamentals of modern business information systems for operational, strategic, and competitive decision-making is introduced and applied in real-world scenarios.
Prerequisite: Lower-level Business Core.

IS 3315 Advanced Applications for Accounting
A computer software applications course in which students use electronic spreadsheet software and other application software to design and implement solutions to common accounting problems and issues.
Prerequisites: Lower-level Business Core.

IS 3320 Data Communication & Networks (3)
This course introduces the theory and practical applications of current technologies in data communication and computer networks. Emphasis is placed on data communication principles, local and wide area networks and an understanding of the basic features, operations, and limitations of data communications and computer networks. Coverage includes wireless technologies, industry convergence, compression techniques, network security, LAN technologies, VoIP, and error detection and correction.
Prerequisite: Lower-level Business Core.

IS 3346 Database Management Systems I (3)
This course is an introduction to database management systems (DBMS) and design via conceptual, logical, and physical modeling techniques. The emphasis is on relational DBMS, including modeling organizational data, representation of data relationships, data definition and manipulation, database design and normalization concepts, database generation, and database administration.
Prerequisites: Lower-level Business Core.

IS 3347 Honors Database Management Systems (3)
This course is an introduction to database management systems (DBMS) and design via conceptual, logical, and physical modeling techniques. Emphasis is on relational DBMS, including modeling organizational data,

- representation of data relationships, data definition and manipulation, database design and normalization concepts, database generation, and database administration. This course is designed for Sorrell Global Scholars honors students.
Prerequisites: Sorrell Global Scholars student or permission of Associate Dean; IS 2241.
- IS 3350 Business Programming (3)**
The course introduces and develops programming fundamentals, including program structure, assignment, data types, input/output, control flow, functions, arrays, strings, object structures, list processing, and advanced I/O. Using an integrated development environment (IDE), students will use packages and libraries to develop object-oriented programs with a focus on data analysis and data visualization.
Prerequisites: Lower-level Business Core.
- IS 3351 Honors Business Programming (3)**
The course introduces and develops programming fundamentals, including program structure, assignment, data types, input/output, flow of control, functions, arrays, pointers, strings, object structures, list processing, and advanced I/O. Using an integrated development environment (IDE), students will use packages and libraries to develop object-oriented programs with a focus on data analysis and data visualization. This course is designed for Sorrell Global Scholars honors students.
Prerequisites: Sorrell Global Scholars student or permission of Associate Dean; Grade of 'C' or higher in IS 2241 and MTH 1112.
- IS 4446 Honors Systems Analysis and Design (3)**
This course discusses the processes, methods, techniques, and tools to develop information system. The course covers a systematic methodology to analyze business requirements, design information system solution, implement and test information system. This course is the capstone course for the concentration. This course follows a project-based approach that requires students to complete a software implementation project using a systems development lifecycle methodology. This course is designed for Sorrell Global Scholars honors students.
Prerequisites: Sorrell Global Scholars student or permission of Associate Dean; Permission of DSS Department Chair.
- IS 4447 Systems Analysis and Design (3)**
This course discusses the processes, methods, techniques, and tools to develop information systems. The course covers a systematic methodology to analyze business requirements, design information system solutions, implement and test information systems. This course is the capstone course for the concentration. This course follows a project-based approach that requires students to complete a software implementation project using a systems development lifecycle methodology.
Prerequisites: Permission of the DSS Department Chair
- IS 4451 Information Security, Assurance and Compliance (3)**
This course introduces information security awareness, governance, assurance, and compliance associated with essential network infrastructure. Emphasis is placed on understanding information systems security policy and technology countermeasures across network infrastructure access points including physical security, authentication, access control, encryption, and system management.
Prerequisites: Lower-level Business Core.
- IS 4460 E-Commerce Design (3)**
This course introduces the basic concepts and language of e-commerce. Coverage includes the planning and development of an e-commerce site, including such issues as security, customer service, payment, and marketing. The course is designed to teach students to explore and evaluate e-commerce technologies, sites, and issues.
Prerequisite: Lower-level Business Core.
- IS 4470 Server-Side Web Development and Administration (3)**
This course introduces server-side web application development and administration technologies. The course emphasizes on the ability to design and implement real-world web applications and server-related issues including security and scalability.
Prerequisites: Lower-level Business Core.
- IS 4475 Internet Technology Development (3)**
This course introduces web application development technologies in an Internet environment and the related scripting languages. The course emphasizes developing secure client-side web applications with HTML and JavaScript, and consuming web services.
Prerequisites: Lower-level Business Core.
- IS 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
Note: This course may not be substituted for any required course.
- IS 4498 Information Systems Internship (3)**
The Information Systems Internship provides students with the opportunity to gain real-world insurance experience in their field of study. Students are interviewed and selected by the individual companies offering the internship. See the Chair of the Information Systems Division for details.
Prerequisite: Student must have completed all four required IS courses with a "B" average. Student must have Internship Proposal approved prior to registering for class.

INTERPRETER TRAINING PROGRAM (ITP)

- ITP 2200 Introduction to Interpreting: Professional Identity and Ethical Considerations (3)**
Introduces basic principles and practices of interpreting. The course is designed to provide an over view of interpreting with respect to professional orientation and identity, including an overview and history of the interpreting industry and work of interpreters, hearing and deaf interpreting teams, certification and licensure, legislation affecting interpreters, 2d vs 3d interpreting work, multiculturalism and the variety of consumers and modalities with which interpreters work. Ethical decision-making models and the Code of Professional Conduct are explored. The course culminates in the students mapping out the competencies required to be successful on interpreting certification exams and resources (including Troy University classes, extra-curricular activities, organizations, etc.) to acquire the competencies.
Pre-requisite: ASL 2242 with a grade of C or better, or permission of ITP academic Advisor.
- ITP 3351 ASL/English Linguistics (3)**
This course is designed to introduce the linguistics of ASL, including phonology, morphology, syntax and semantics. Geographical, generational, racial and gender differences are explored. English and ASL similarities and differences are highlighted.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3353 Introduction to Interpreting English to ASL (3)

This is a theory-to-practice course in which interpreter trainees are required to analyze message input from a person using the source language (English), and process and produce an equivalent message intended for an individual using the target language (ASL). Cognitive processing skills will be refined with an emphasis on text and situational analyses and self-evaluation. Interpretations will be rendered consecutively.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3360, EDU 3366 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3354 Introduction to Interpreting ASL to English (3)

This is a theory-to-practice course in which interpreter trainees are required to analyze message input from a person using the source language (ASL), and process and produce an equivalent message intended for an individual using the target language (English). Cognitive processing skills will be refined with an emphasis on text and situational analyses and self-evaluation. Interpretations will be rendered consecutively.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3360, EDU 3366 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3355 Transliteration (3)

Focuses on expressive and receptive transliterating skill development in English and manual Codes for English with attention to setting and register.

Pre-requisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3353, EDU 3354, EDU 3360, EDU 3366 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3360 Models of Interpretation / Transliteration (3)

Students will be introduced to various interpreting models, eluding the Process Model, the Cokely Model, and the Colonomos Model. Students will use the models to analyze interpretations. Self-assessment techniques will be taught and Demand-Control theory will be introduced.

Prerequisite: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3364 Introduction to Educational Interpreting/ Transliterating (3)

This course surveys the field of interpreting in educational settings. The focus of the course is on an analysis of the educational environment's impact on the deaf/hard of hearing student and the myriad roles of an interpreter in these settings. Guidelines of professional conduct are presented and specialized subject vocabulary is introduced.

Prerequisite: ASL 2242, ITP 2200, with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3366 Discourse Analysis I (3)

Introduces the concept of discourse analysis as it relates to ASL and English. Transcriptions and analysis of English discourse and texts will be the focus with the implications to interpreters. Emphasis will be on analyzing messages and metamessages within multicultural settings and understanding the biases and filters interpreters often bring to the interpreted task with assumptions made about the meaning of a text based on the

interpreter's own experiences. The overarching goal will be to ensure interpreters are able to analyze a text to understand the conversational signals and devices used.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200 and EDU 3351 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3368 Interpreting in Specialized Settings (3)

An introductory course which provides an overview of the ethical considerations, specialized vocabulary and skills needed to interpret in special settings such as performing arts, conferences, legal settings, phone relay, religious and health settings.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 3375 Introduction to Interactive Interpreting (3)

This is a theory-to-practice introductory course in interactive interpreting in which students will both observe and practice consecutive interactive interpreting, analyze the parts of the process that go into such interactions and interpretations and analyze the resulting work, creating a continuous feedback loop to build awareness and skills in each of the requisite parts.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3360 and EDU 3366 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 4452 Discourse Analysis II (3)

Students will develop a better understanding of the broad methodological areas of discourse analysis and conversation analysis as an approach for understanding signed languages and English, particularly in the context of interpreting. Expands the concepts of discourse analysis as it relates to ASL and interpreted interactions. Transcriptions and analysis of ASL and interpreted discourse and texts will be the focus with the implications to interpreters. Emphasis will be on analyzing messages and metamessages within multicultural settings and understanding the biases and filters interpreters often bring to the interpreted task with assumptions made about the meaning of a text based on the interpreter's own experiences. The overarching goal will be to ensure interpreters are able to analyze a text to understand the conversational signals and devices used are interpreted accurately and effectively across the interpreted boundary from the source message to the target message.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351 and EDU 3366 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 4456 Advanced English to ASL (3)

Focuses on interpreting/transliterating from spoken English to ASL or Manual Codes for English.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3353, EDU 3366 and EDU 3375 with a grade of C or better, or permission of ITP Academic Advisor.

ITP 4457 Advanced ASL to English (3)

Focuses on interpreting/transliterating from ASL or Manual Codes for English to spoken English. Students develop appropriate use of register and cross-cultural bridging techniques.

Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3354, EDU 3366 and EDU 3375 with a grade of C or better, or permission of ITP Academic Advisor.

- ITP 4458** **Advanced Interactive Interpreting (3)**
 Course focuses on consecutive and simultaneous interpreting and transliterating. Students will develop skills in team interpreting in interactive settings.
Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and ASL 2242, EDU 2200, EDU 3351, EDU 3353, EDU 3354, EDU 3366 and EDU 3375 with a grade of C or better, or permission of ITP Academic Advisor.
- ITP 4462** **Practicum I: Seminar and Field Experiences (3)**
 This is a field experience course in which interpreter trainees have the opportunity to interview, observe, interact with and shadow interpreters in public venues.
Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and EDU 4452, EDU 4456, EDU 4457 and EDU 4458 with a grade of C or better, or permission of ITP Academic Advisor.
- ITP 4463** **Practicum II: Seminar and Field Experience (3)**
 This is a field experience course in which interpreter trainees have the opportunity to team interpret with credentialed interpreters. Trainees will interpret in one on-one situations for which they are qualified.
Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and EDU 4452, EDU 4456, EDU 4457 and EDU 4458 with a grade of C or better, or permission of ITP Academic Advisor.
- ITP 4465** **Internship: Educational Interpreting (6)**
 Course Description: The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform in an educational setting. The interpreter-in-training is involved in interpreting interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to an educational setting (k-12 or postsecondary) for 300 clock hours, 120 of which must be in direct interpreting service. Students are also responsible for developing and fulfilling a Service Learning Project (SLP) equivalent to at least 20 hours of planning and 20 hours of service to the community serving children. The SLP shall be in partnership with the community and sustainable.
Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and EDU 4462 with a grade of C or better, or permission of ITP Academic Advisor.
- ITP 4466** **Internship: Community Interpreting (6)**
 Course Description: The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform in a community setting. A regularly employed interpreter is defined as a person occupying the professional interpreting role to which the student is aspiring. The interpreter-in-training is involved in interpreted interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to a business, organization, interpreting agency, qualified interpreter(s), or rehabilitation setting for 300 clock hours, 120 of which must be in direct interpreting service. Students are also responsible for developing and fulfilling a Service Learning Project (SLP) equivalent to at least 20 hours of planning and 20 hours of service to the community serving adults. The SLP shall be in partnership with the community and sustainable.
- Prerequisites: Sign Language Proficiency Interview rating of Intermediate Plus, and EDU 4463 with a grade of C or better, or permission of ITP Academic Advisor.*
- ITP 4467** **Interpreting Mentorship I: Sign Language/English Interpreting (3)**
 Surveys mentoring approaches in interpreter education in the United States. Topics include definitions of mentorship, knowledge and skills needed to mentor, qualities of mentors and mentees, mentorship management, portfolios as mentoring tools, and approaches to mentoring in the US.
Prerequisites for ITP majors: Only by permission of ITP Academic Advisor on the basis of possessing a nationally validated certification prior to admission and completion of all coursework excluding EDU 4462 and EDU 4463.
- ITP 4468** **Interpreting Mentorship II: Sign Language/English Interpreting (3)**
 This course builds on the information presented in Mentoring I, providing opportunities to practice various approaches and develop expertise in interpreting assessment and feedback. Students will develop their own approaches to mentoring and design their Internship project.
Prerequisites for ITP Majors: Completion of all coursework excluding EDU 4462 and EDU 4463 or permission of ITP Academic Advisor.
- ITP 4469** **Interpreting Mentorship III: Sign Language/English Interpreting Practicum (3)**
 Supervised mentoring experience with intensive application of mentoring skills. Emphasizes practical application of mentoring through ongoing assessment of interpreting and interpreting settings; provides hands-on opportunities to assess, provide feedback, and receive feedback about both interpreting and mentoring skills.
Prerequisites for ITP majors: Only by permission of ITP Academic Advisor on the basis of possessing a nationally validated certification prior to admission to ITP. Completion of all course work excluding EDU 4470 and successful completion (grade C or better) in EDU 4467 and EDU 4468.
- ITP 4470** **Interpreting Mentorship IV: Sign Language/English Interpreting Internship (3)**
 Implements a supervised mentoring project designed in Mentorship II: Interpreting. Applies knowledge and skills acquired and integrates them with real-world experiences in mentoring. Projects are implemented in collaboration with students' home or sponsoring region to provide mentoring in that area.
Prerequisites for ITP majors: Only by permission of ITP Academic Advisor on the basis of possessing a nationally validated certification prior to admission to ITP. Completion of all course work excluding EDU 4469 and successful completion (grade C or better) in EDU 4467 and EDU 4468.
- ITP 4471** **Community Interpreting Internship I (3)**
 The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform. The interpreter-in-training is involved in interpreted interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to supervising mentor with whom they will identify appropriate learning activities and working experiences for 150 clock hours, 60 of which must be in direct interpreting service.
Prerequisite: Sign Language Proficiency Interview rating of Intermediate Plus and ITP 4463 with a

grade of “C” or better, or permission of ITP Academic Advisor.

ITP 4472

Specialized Interpreting I (3)

The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform within one or two of the following specialized settings: educational, medical, mental health, religious, performing arts, legal and/or Video Relay Services. The interpreter-in-training is involved in interpreted interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to supervising mentor with whom they will identify appropriate learning activities and work experiences for 150 clock hours, 60 of which must be in direct interpreting service. *Prerequisite: Sign Language Proficiency Interview rating of Intermediate Plus and ITP 4463 with a grade of “C” or better, or permission of ITP Academic Advisor.*

ITP 4473

Community Interpreting Internship II (3)

The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform. The interpreter-in-training is involved in interpreted interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to supervising mentor with whom they will identify appropriate learning activities and working experiences for 150 clock hours, 60 of which must be in direct interpreting service. *Prerequisite: Sign Language Proficiency Interview rating of Intermediate Plus and ITP 4463 with a grade of “C” or better, or permission of ITP Academic Advisor.*

ITP 4474

Specialized Interpreting Internship II (3)

The internship provides an opportunity for the student to perform, under supervision, a variety of activities that a regularly employed interpreter would be expected to perform within one or two of the following specialized settings: educational, medical, mental health, religious, performing arts, legal and/or Video Relay Services. The interpreter-in-training is involved in interpreted interactions appropriate to his/her skill level and training. Interns receive feedback and supervision from on-site supervisors, group seminar supervisors, team interpreters, consumers, and faculty members. Interns are assigned to supervising mentor with whom they will identify appropriate learning activities and work experiences for 150 clock hours, 60 of which must be in direct interpreting service. *Prerequisite: Sign Language Proficiency Interview rating of Intermediate Plus and ITP 4463 with a grade of “C” or better, or permission of ITP Academic Advisor.*

ITP 4493

Guided Independent Research I (1-3)

Undergraduate research with attention to critical evaluation of research technique methods and procedures with work specialized to the Interpreter Training Program. *Prerequisites for ITP majors: Junior or senior standing and only by permission of ITP Advisor and approval of department chair.*

ITP 4494

Guided Independent Research II (1-3)

Undergraduate research with attention to critical evaluation of research technique methods and procedures with work specialized to the Interpreter Training Program.

Prerequisites for ITP majors: Junior or senior standing and only by permission of ITP Advisor and approval of department chair.

ITALIAN COURSES (ITL)

ITL 1101

Introductory Italian I (3)

Introduction to the Italian language and culture.

ITL 1102

Introductory Italian II (3)

Introduction to the Italian language and culture
Prerequisite: ITL 1101.

JAPANESE COURSES (JPN)

JPN 1101

Introductory Japanese I (3)

Introduction to the Japanese language and culture.

JPN 1102

Introductory Japanese II (3)

Introduction to the Japanese language and culture.
Prerequisite: JPN 1101 or permission of instructor.

JPN 2201

Intermediate Japanese I (3)

Progressive development of basic language skills in Japanese.
Prerequisite: JPN 1102 or permission of instructor.

JPN 2202

Intermediate Japanese II (3)

Progressive development of basic language skills in Japanese.
Prerequisites: JPN 2201 or permission of instructor.

JOURNALISM COURSES (JRN)

Note: Reasonable proficiency in keyboarding (25 wpm) is a prerequisite for all journalism courses except COM 1101 and JRN 1103.

JRN 1100

Technologies in Journalism (3)

An introduction to the technological advances in journalism and the promotion of an understanding of the impact of these advancements.
Must make a C or better.

JRN 1102

Writing for the Mass Media (3)

A basic course in preparing written materials for the mass media and for online communication, with emphasis on using Associate Press style and writing leads.
Prerequisites: ENG 1101, 1102, JRN 1100, with grade of C or better in each course. May be taken concurrently with JRN 1100. Must make at least C or better in JRN 1102 before taking JRN 2201.

JRN 1103

Introduction to Radio and Television (3)

An introduction to the electronic forms of mass communication with discussions on the theoretical and business aspects of radio and television, cable and corporate video communications, and an introduction to programming and regulations.

JRN 2201

Reporting (3)

Gathering, evaluating and reporting the news for traditional and online media.
Prerequisite: Completion of JRN 1102 with grade of C or better. Must make at least C or better in JRN 2201 before taking 3000 level or higher Journalism courses.

JRN 2211

Editing and Design (3)

Editing copy and video, headline writing, layout and design for print, video and electronic publications plus online communications.
Prerequisites: JRN 1100 and 1102. Must make a C or better in JRN 2211 to receive credit toward degree.

JRN 2289

Social Media Practicum (1)

Social Media has become an instrumental tool of communication for businesses and organizations of all sizes. Understanding how to use social media effectively as a professional resource is a skill

- important for any graduate. This course will provide students with real-world lessons and practical experience in the use and function of social media as a tool for public relations outreach and communication.
Prerequisite: ENG 1101 or permission of the instructor.
- JRN 3300 Digital News Photography (3)**
Discussion of and practical experience in digital and video photography for print, broadcast, electronic and online media.
- JRN 3302 Feature and Magazine Article Writing (3)**
Researching and writing feature stories with emphasis on covering issues and trends in magazines, electronic and online publications, pitching ideas to editors and marketing articles as a freelancer.
Prerequisite: JRN 2201.
- JRN 3312 Advanced Editing and Design (3)**
Advanced study and practice in layout and design of newspapers, electronic publications and online media, including special pages and editions; typography and graphics; copy editing and video.
Prerequisite: JRN 2211.
- JRN 3315 Advanced Reporting (3)**
News reporting and writing on sports, business, consumer affairs, the environment, and public affairs, particularly local and state government, the courts and education, in a multimedia environment including print, video and online communications. Emphasis is placed on use of background research and multiple sources and writing on deadline.
Prerequisite: JRN 2201. Must make a C or better in JRN 3315 to receive credit toward degree.
- JRN 3318 The Evolution of Broadcast News (3)**
From the very first television news broadcasts in the 1940s, to the women who broke barriers in a male dominated business, to news stations in China now using Artificial Intelligence to create virtual news anchors, this class will explore how broadcast news has evolved over the past 75 years. Students will learn how daily newscasts changed the manner in which Americans saw the world, and also how iconic news anchors helped shape the course of American history.
- JRN 3326 Advising Student Publications (3)**
Students successfully completing this class will have the ability to teach journalism, including how to produce magazine and newspaper layout; develop copy and/or storyboard for radio and television production; apply techniques of advertising, reporting and editing; and use current and emerging technology in the production of print and non-print journalism.
- JRN 3327 Sports Broadcasting (3)**
Advanced methods, techniques and performance styles for broadcast sports news and information.
- JRN 3330 Journalism Practicum (1 to 3 credit hours)**
Supervised journalism-related experiences focusing on gathering information, writing, editing, photography, design, online journalism, electronic journalism, broadcast journalism, advertising and/or public relations.
- JRN 3335 Social Media Strategies and Engagement (3)**
This course explores and evaluates social media content and campaigns and how organizations can capitalize on social media for communication. Students will gain the knowledge and skills for creating engaging content across platforms such as Facebook, Instagram, Snapchat, and Twitter and learn how to measure the success of those efforts. Additionally, students will absorb the understanding of industry-standard tools for social media management, audience analytics, and paid media.
- JRN 3340 Introduction to Mobile Journalism (3)**
The concepts and technologies for this course include newsgathering through multiple digital methods and storytelling across multiple platforms from the field.
Smartphones or computer tablets are required. Prerequisite: JRN 2201.
- JRN 3360 Broadcast News Writing (3)**
Gathering, evaluating, writing and performing broadcast copy. Applies news gathering techniques to the broadcast writing style, on-the-scene coverage, interviewing and announcing. Must make a C or better.
Prerequisite: JRN 1102.
- JRN 3365 TV Studio Techniques and Producing (3)**
An introduction to the production elements, theories and procedures of producing news broadcasts for television. Lighting, set design, preparation, operation of equipment, graphics, editing, responsibilities of those members involved in the production, electronic news gathering (ENG), operation of remote equipment and interviewing are topics discussed in this class.
- JRN 3380 Global Journalism and International Media Systems (3)**
An examination of international and domestic mass media systems, the flow of information and technology, and issues of media ownership, access, regulations, programming and cultural differences in international communications.
- JRN 4400 Special Topics in Journalism (1 to 3 credit hours)**
Lecture, discussion, and research course designed to acquaint students with special topics in the fields of broadcast and print journalism. May be taken for a maximum of six hours.
Prerequisite: JRN 1100
- JRN 4401 Community Media Management (3)**
Discussion of special problems and management techniques of print, broadcast, cable, online media, public relations and communication organizations.
- JRN 4403 Radio News Practicum (3-6)**
Supervised experience in gathering, writing and performing radio news broadcasts.
Prerequisite or Co-requisite: JRN 3360 or permission from the instructor.
- JRN 4405 Radio Production Practicum (3-6)**
Supervised experience in radio studio work. Includes audio techniques for both public affairs and musical productions, tape editing, and use of automated programming.
Prerequisite or Co-Requisite: JRN 3360 or permission from the instructor.
- JRN 4410 Advanced Radio Practicum (3-6)**
Emphasis on individualized work in radio news or production.
Prerequisite: JRN 4403 or 4405.
- JRN 4413 Television News Practicum (3-6)**
Supervised experience in gathering, writing and performing for a daily news broadcast.
Prerequisite: JRN 3360
- JRN 4415 Television Production Practicum (3-6)**
Supervised experience in technical television work. Includes in-studio and remote camera operation, lighting, video tape editing and directing.
- JRN 4420 Advanced Television Practicum (3-6)**
Emphasis on individualized work in television news or production.
Prerequisite: JRN 4413 or permission from the instructor.

- JRN 4421 Opinion Writing (3)**
Writing and editing of opinion for print, broadcast, electronic and online communication systems, with extensive practice in writing editorials and opinion columns.
Prerequisite: JRN 2201.
- JRN 4425 Multimedia Law (3)**
The rights and restrictions of the press: the First Amendment, privilege, libel, slander, contempt, right of privacy, etc.
Prerequisite: Junior standing or above.
- JRN 4427 Sports Reporting (3)**
Advanced methods, techniques, and writing styles for reporting sports news and information.
Prerequisite: JRN 2201.
- JRN 4430 Processes and Effects of Mass Communication (3)**
This course provides students with an understanding of the development of the most notable, historical, social scientific and empirically grounded theoretical perspectives with regard to mass communication. In addition, analysis and interpretation of these theories will be addressed.
- JRN 4440 Advanced Technologies in Journalism (3)**
An introduction to using advanced technologies and on-line reporting techniques in journalism and public relations.
Prerequisite: JRN 1100 Technologies in Journalism
- JRN 4445 Mobile Journalism Practicum (3)**
Supervised experience in mobile journalism reporting, including in-depth fieldwork and producing original content to build student portfolios.
Smartphones or computer tablets are required.
Prerequisite: JRN 3340.
- JRN 4450 Electronic Publishing (3)**
This is a hands-on mastery course in using words, images, video, sound and social media to communicate in an interactive and online environment.
- JRN 4460 Network Sports Production (3)**
Supervised experience in television sports production, including in-depth fieldwork with the Troy University Athletics Department and the sports network, ESPN3. Students will shoot and edit sporting events for use on ESPN3. Weekend work is required.
- JRN 4489 Internship (5)**
Supervised work that can provide practical experience in the field of study.
- JRN 4490 Field Experience (1-7)**
Supervised study in the practical application of issues related to journalism and communication.
- JRN 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- JRN 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- JRN 4495 Communication Seminar (1)**
Study of issues related to communication theory, the history and future of communication industries, the impact of online communication and ethics. Additionally, students will create a professional portfolio.
Prerequisite: At least a Junior Standing.
- KHP 1101 Badminton (1)**
Physical education activity course.
- KHP 1107 Swimming (1)**
Physical education activity course.
- KHP 1108 Tennis (1)**
Physical education activity course.
- KHP 1109 Intermediate Swimming (1)**
Physical education activity course.
- KHP 1110 Paddle Tennis (1)**
Physical education activity course.
- KHP 1111 Archery (1)**
Physical education activity course.
- KHP 1112 Advanced Swimming (1)**
Physical education activity course.
- KHP 1122 Water Aerobics (1)**
Physical education activity course.
- KHP 1124 Beginning Yoga (1)**
Course will introduce students to yoga as a different type of exercise. Students will explore the opportunity for yoga to become a lifetime activity in order to promote health and wellness in their daily routines.
- KHP 1134 Ballroom Dance (1)**
An introduction to social dancing with an emphasis on American ballroom dances (foxtrot, waltz, swing) and Latin ballroom dances (cha cha, mambo, tango). Equivalent to DAN 1134.
- KHP 1139 Fitness for Life I (1)**
Physical education activity course.
- KHP 1141 Jogging (1)**
Physical education activity course.
- KHP 1142 Weight Training (1)**
Physical education activity course.
- KHP 1144 Step Aerobics (1)**
Physical education activity course.
- KHP 1146 Physical Defense for Women (1)**
Physical education activity course.
- KHP 1150 Introduction to Sports Medicine (1)**
Acquaints students to the various sports medicine careers and the roles each profession can play within the healthcare of the physical active population.
- KHP 2200 Health Concepts (1)**
A study of health concepts that characterizes a process in the life cycle that is typical of every individual.
- KHP 2201 Camping and Outdoor Education (2)**
Camping, leadership and program planning.
- KHP 2202 First Aid and Safety and CPRO (2)**
Community first aid and safety instruction and CPRO for the professional following American Red Cross techniques.
- KHP 2208 Intermediate Tennis (1)**
Physical education activity course.
- KHP 2211 Human Nutrition (3)**
Explores the relationship between nutrition and health. Emphasizes the roles of nutrients, their utilization in the human system and their contributions to the health of individuals of all ages. Includes dietary patterns, of various cultural, ethnic and religious groups, nutritional assessments, and food safety. Open to all majors.
- KHP 2212 First Aid and CPRO Recertification (1)**
Community first aid and safety instruction and CPRO for recertification.
Prerequisite: Proof of certification in American Red Cross Community First Aid and Safety/CPRO within 1 year of start date of class. Permission of instructor or department chair.

**KINESOLOGY AND HEALTH
PROMOTION COURSES (KHP)**

- KHP 2239 Fitness for Life II (1)**
Physical education activity course.
- KHP 2240 Personal and Community Health (3)**
Personal health as it applies to practices, knowledge and behavior.
- KHP 2241 Intermediate Jogging (1)**
Physical education activity course.
- KHP 2242 Intermediate Weight Training (1)**
Physical education activity course.
- KHP 2246 Advanced Physical Defense for Women (1)**
Physical education activity course.
Prerequisite: Grade B or better in KHP 1146.
- KHP 2250 Foundations of Health Science (1)**
A study of the historical, philosophical and theoretical foundations of health education and health promotion, including the current status and projected trends in health education and promotion.
- KHP 2251 Instructional and Theoretical Practices in Physical Education (3)**
This course will discuss research-based instructional practices utilized in group settings and theoretical practices to support application-based practices in physical education
- KHP 2252 Skills and Concepts of Rhythmic Activities (3)**
Social, folk and square dancing, including basic rhythmic activities which can be taught in elementary, middle and high schools. Equivalent to DAN 2252.
Prerequisite: Permission of instructor.
- KHP 2260 Applied Fitness Concepts (2)**
Personal conditioning-based course focusing on training principles, modes of exercise, training tools, performance enhancers, measurement concepts and exercise prescription.
- KHP 2263 Lifeguard Training (3)**
Organization and teaching of the fundamental skills for water safety and the prevention of drowning.
Prerequisites: Advanced swimming or permission of instructor.
- KHP 2270 Intermediate Military Fitness and Exercise (2)**
Students will develop overall cardio-respiratory fitness, muscular endurance and strength; plan and develop an individual physical training program; enhance individual knowledge of fitness and well being; and understand the principles of exercise and components of fitness.
- KHP 2276 Theory and Techniques of Coaching Softball (2)**
Development of basic skills necessary for team play, squad organization, rules, scouting procedures, team conditioning, and equipment needs.
- KHP 2277 Theory and Techniques of Coaching Football (2)**
Offensive and defensive techniques, purchase and care of equipment, budgeting, ethics, rules, scouting and team conditioning.
- KHP 2278 Theory and Techniques of Coaching Soccer (2)**
The development of basic skills necessary for team play, squad organization, rules, scouting procedures, term conditioning and equipment needs.
- KHP 2279 Theory and Techniques of Coaching Volleyball (2)**
Offensive and defensive techniques, purchase and care of equipment, budgeting, squad organization, rules, scouting and team conditioning.
- KHP 2281 Theory and Techniques of Coaching Baseball (2)**
Offensive and defensive techniques, purchase and care of equipment, budgeting, batting and field drills, rules, scouting and team conditioning.
- KHP 2282 Theory and Techniques of Coaching Basketball (2)**
Offensive and defensive techniques, purchase and care of equipment, budgeting, squad organization, rules, scouting and team conditioning.
- KHP 3303 Testing and Statistical Interpretation (3)**
Test selection, analyzing test scores and measurement as a technique of evaluation in health education, physical education and exercise science.
Prerequisite: MTH 1112
- KHP 3310 Introduction to Food Science (3)**
This course provides a basic study of the chemical and biological principles of food and food preparation techniques including food quality, nutrition, safety, processing, meal management, and laws regulating food handling.
Co-requisite: KHP L310.
Prerequisites: None. Open to all majors.
- KHP L310 Introduction to Food Science Lab (1)**
Experimental and observational techniques in food preparation.
Co-requisite: KHP 3310.
Prerequisites: None. Open to all majors.
- KHP 3311 Nutritional Assessment (3)**
This course provides a study and application of techniques for assessing dietary, anthropometric, and biochemical indices in normal and selected clinical and community settings. Assessment techniques will be explored in the context of nutrition screening, chronic disease prevention, and intervention effectiveness.
Prerequisite: Grade of "C" or better in KHP 2211 or NSG 2204.
- KHP 3315 Complementary and Alternative Therapies (2)**
This course provides the study and application of knowledge of contemporary and alternative therapies (CAT). Federal regulations, cultural beliefs, evidence-based research, perceived benefits, and risks will be explored.
Prerequisite: Grade of "C" or better in KHP 2211 or NSG 2204.
- KHP 3316 Community Nutrition (3)**
This course provides knowledge relevant to public health nutrition and the role of the federal government in establishing nutrition policy in the context of the demographic profile of the United States. Concepts include nutritional epidemiology, public health monitoring through food and nutrition surveys, nutrition programs to reduce health disparities and address diet-related chronic disease, and nutrition issues of special populations.
Prerequisites: Grade of "C" or better in KHP 2211 or NSG 2204.
- KHP 3330 Physical Skills Proficiency (2)**
This course covers rules, regulations, terms, origin, development, safety, equipment and performance of skills of specified sport activities including archery, soccer, conditioning and track and field which are related to KHP 4485/4486.
- KHP 3340 Diverse Learners (3)**
This course explores programs to serve the needs of the exceptional child in schools.
Prerequisites: KHP 3361.
- KHP 3345 Medical Terminology (1-2)**
A course intended to instruct in the proper interpretation of medical and allied health terminology. Topics covered include Arabic, Greek, and Latin prefixes, suffixes, and root words common across medical and health-related fields, and their definitions and rules of usage.
- KHP 3350 Psychology of Wellness and Performance (3)**
Theory and practical application of psychological factors that impact wellness and performance of individuals and groups.

- KHP 3352 Kinesiology and Efficiency of Human Movement (3)**
General anatomy, joint and muscle function, and analysis of body movements.
Prerequisites: Grade of C or better in KHP 3360 or BIO 3347/L347 and BIO 3348/L348.
- KHP 3360 Physiological Principles of Body Systems (3)**
This course will examine the structure, function and control mechanisms of the following body systems: musculoskeletal, nervous, endocrine, cardiovascular, and respiratory. Metabolism, temperature regulation and fluid, electrolyte and acid base balance will also be discussed.
Prerequisites: Grade of "C" or better in BIO 1100/L100 and CHM 1142/L142; or SCI 2233/L233; or PHY 2252/L252.
- KHP 3361 Integrating HPER into the Curriculum (3)**
Methods and materials of teaching physical education for grades K-6.
- KHP 3363 Lifeguard Training Instructor (3)**
Review of all physical skills included in lifeguard training. Course will consist of theory and techniques of organizing and conducting the lifeguard training instructor course.
Prerequisite: KHP 2263.
- KHP 3368 Water Safety Instructor (WSI) (2)**
Organization and teaching swimming and water safety programs.
Prerequisite: Swimming Certificate.
- KHP 3369 Scuba (2-4)**
Basic techniques of scuba diving.
Prerequisites: In addition to lab fee, a student is required to purchase mask, fins, snorkel, weight belt and weights. Students are also required to make two trips for final certification. The student will be responsible for the cost of transportation, food and lodging during the two trips.
- KHP 3370 Occupational Health Sciences (3)**
This course will introduce students to various occupations in the health science/health service field. Interdisciplinary information will be discussed to provide knowledge of options for future education and/or career endeavors. Students will explore various health science/health service fields to determine areas of interest.
Prerequisite: Must be an Interprofessional Health Science Major.
- KHP 3394 Lifting Techniques for Conditioning and Rehabilitative Exercise (1)**
Students will gain knowledge for spotting techniques, safety techniques, exercises, periodization and development of strength and conditioning programs on the physically active.
Prerequisites: KHP 3352
- KHP 3395 Care and Prevention of Athletic Injury (2)**
The study of basic care and prevention, evaluation, management and rehabilitation of athletic injuries.
Prerequisites: Grade of C or better in BIO 3347/L347 and BIO 3348/L348 or KHP 3360.
- KHP 4400 Sports Officiating and Programs in Intramurals (3)**
Focuses on school and community recreation programs, including sports, games and officiating techniques.
- KHP 4405 Physical Activity and Disease Prevention (3)**
This course will explore the link between physical activity and the major diseases experienced by modern day humans. Evidence for and against the potential benefits of physical activity will be reviewed for conditions such as coronary heart disease, cancer, stroke, diabetes, arthritis, low back pain, asthma, infection, high blood cholesterol, high blood pressure, obesity and stress.
- KHP 4410 Motor Development (3)**
An analysis of the ways in which children develop movement capabilities.
Prerequisite: Junior standing or above.
- KHP 4425 Pathophysiology (3)**
This course explores the differences in normal and disordered physiological processes in human body cells, organs, and organ systems. In addition, this course examines the scientific evidence in support of the beneficial effect of regular physical activity on reduced mortality from all causes including cardiovascular diseases and metabolic disorders
Prerequisites: Grade of "C" or better in BIO 3348/L348 and KHP 4474/L474
- KHP 4427 Health and Fitness Education (3)**
This course will discuss how to educate various age groups on health and fitness-related components of physical fitness, health behavior, and their application to health practice.
- KHP 4435 Current Issues in Athletics (3)**
This course provides current information, technology and legal issues for coaches and athletics. Students will identify ways to stay current with contemporary developments in athletics and how changes may be applied in the athletic setting.
Prerequisites: Nine hours of 3000 level or above KHP courses.
- KHP 4442 Health Education (3)**
This course provides constructed opportunities for learning involving communication designed to improve health literacy, including improving knowledge and developing skills which are conducive to individual and community health and health-care related fields.
- KHP 4446 Secondary Physical Education Resistance Training Practices (3)**
This course will enable the physical education major to develop scientific-evidence based knowledge and expertise in the areas of strength training, cardiovascular endurance, flexibility, reaction time, speed and agility in traditional and non-traditional sports. This course will also give students the opportunity to learn how to test and evaluate athletes and to practice performing correct exercise technique. Emphasis will be placed on implementation and measurement of the above programs in conjunction with prescribed workout regimes for athletic development in youth athletes in a physical education setting.
Prerequisite: Grade of "C" or better in KHP 3352, KHP 4474/L474 and must be a Physical Education major.
- KHP 4458 Lifecycle Nutrition (3)**
This course provides an examination of nutrition concerns, requirements and metabolism from a biological, psychosocial, and cultural perspective from conception through late adulthood. The impact of nutrition on preconception, pregnancy, lactation, infancy, adolescence, adulthood, and aging will be studied in the context of normal nutrition and nutrition-related special conditions and interventions.
Prerequisites: Grade "C" or better in KHP 2211 or NSG 2204.
- KHP 4459 Sport and Exercise Nutrition (3)**
This course examines the special dietary requirements of physically active individuals and athletes in training. The course will cover the basics of nutrition and bioenergetics along with current issues such as fad diets and disordered eating, pre-competition meals, sports drinks, mineral supplements, and other various ergogenic aids.

- Prerequisites: Grade of C or better in KHP 4474/L474.*
- KHP 4460 Principles of Strength and Conditioning (3)**
This course will enable the student to develop knowledge and expertise in the areas of strength training, cardiovascular endurance, flexibility, reaction time, speed, and agility in traditional and non-traditional sports. Emphasis will be placed on implementation and measurement of the above programs in conjunction with athletic development.
Prerequisites: Grade of C or better in KHP 3360 or BIO 3347/L347 and BIO 3348/L348 and KHP 3352. Co-requisite: KHP L460.
- KHP L460 Principles of Strength and Conditioning Lab (1)**
This lab is designed to develop practical knowledge and expertise in the areas of strength training, cardiovascular endurance, flexibility, reaction time, speed, and agility in traditional and non-traditional sports. Emphasis will be placed on implementation and measurement of the above programs in conjunction with athletic development.
Co-requisite: KHP 4460.
- KHP 4465 Classroom Management for Physical Educators (3)**
This course will explore the issues of organization, curriculum, and classroom management as they relate to the physical education environment. Directed field requirements will be presented and observation hours will be conducted.
Prerequisite: Junior Standing or above.
- KHP 4466 Physical Education Practicum (3)**
Practicum is designed to provide a supervised experience related to instruction in physical education in the elementary and secondary settings. A diverse set of concepts, skills and pedagogical practices pertaining to these three core areas will be emphasized. Students will determine their population's strengths and weaknesses, design a unit of instruction to include those with identified modifications/accommodations, implement the unit, assess student's performance, analyze results and reflect on teaching needs, changes and future practice using theory and research for support.
Prerequisite: KHP 4481
- KHP 4472 Internship in Health/Physical Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP. Co-requisite: IED 4454.
- KHP 4474 Exercise Physiology (3)**
Physiological mechanisms and adaptations of cells, tissues, organs and systems during physical activity.
Prerequisites: Grade of C or better in KHP 3360 or BIO 3347/L347 and BIO 3348/L348. Co-requisite: KHP L474.
- KHP L474 Exercise Physiology Lab (1)**
Course will provide experience for applied exercise physiology principles as students are introduced to laboratory and field tests of muscular strength, anaerobic power, maximal oxygen uptake, body composition and other physiological measurements.
Co-requisite: KHP 4474.
- KHP 4475 Exercise Testing and Prescription (3)**
Course will examine the criteria for evaluation of health status of persons wishing to begin an exercise program, guidelines of establishing current fitness level, and the basic principles of exercise prescription. Levels of certification and criteria by ACSM will also be discussed.
Prerequisites: Grade of C or better in KHP 4474/L474.
- KHP 4476 Laboratory Practicum in Exercise Performance (2)**
Students will be introduced to some of the measurement techniques routinely used in exercise physiology and will gain practical experience in administration of these tests. Emphasis will be placed on how to avoid measurement errors.
Prerequisite: Grade of C or better in KHP 4475.
- KHP 4481 Methods and Materials for the P-12 Physical Educator (3)**
Teaching methods, selection, organization and use of physical education materials in grades P-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson plan formatting. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.
- KHP 4485 Teaching Individual and Team Sports I (3)**
Teaching methods, techniques, and officiating secondary team sports and individual physical fitness activities.
Prerequisite: KHP 3330
- KHP 4486 Teaching Secondary Physical Education (3)**
Teaching methods, techniques, and officiating secondary team sports and individual physical fitness activities.
Prerequisite: KHP 3330, and KHP 3331.
- KHP 4487 Special Topics in Exercise Performance (2)**
An intensive study of selected topics in exercise science. Topics to be taught each term TBA.
Prerequisite: KHP 4474 or permission of instructor.
- KHP 4488 Cardiovascular Physiology (3)**
This course will cover the function of the cardiovascular system in health and disease. Topics covered will include anatomy and physiology of the heart and circulatory system, regulation of heart rate, blood pressure, and blood flow, as well as regulation of cardiovascular function during rest and exercise.
Prerequisite: Grade of "C" or better in KHP 4474/L474.
- KHP 4490 Internship in Area of Concentration (6)**
A supervised experience in planning, staging and evaluating a formal practicum in related field.
Prerequisite: KHP 4443, 4499, permission of the department chair.
- KHP 4491-92 Guided Independent Research (1 to 3 credit hours)**
Additional information is indexed under Independent Study and Research.
- KHP 4493-94 Guided Independent Study (1 to 3 credit hours)**
Additional information is indexed under Independent Study and Research.
- KHP 4495 Advanced Exercise Physiology (3)**
This course will allow students to experience and explore advanced concepts and topics related to exercise physiology.
Prerequisites: Grade of C or better in KHP 4474.
- KHP 4496 Biomechanics (3)**
The study of anatomical, mechanical, and neurophysiological factors influencing human motion. Emphasis is given to the qualitative and quantitative application of biomechanical principles to analyze human movement.
Prerequisites: Grade C or better in KHP 3352 Co-requisite: KHP L496.

- KHP L496 Biomechanics Lab (1)**
The measurement and assessment of anatomical, mechanical, and neurophysiological factors influencing human motion. Emphasis is given to the qualitative and quantitative application of bio-mechanical principles to analyze human movement.
Co-requisite: Grade of C or better in KHP 4496.
- KHP 4497 Senior Seminar in Exercise Science (1)**
Students will examine trends in the industry, career paths, and discuss current topics in wellness, fitness, sport, nutrition, athletic training, and physical therapy. This course will also address the standards, behaviors, and expectations of the exercise scientist.
Prerequisite: Sr. standing or permission of instructor.
- KHP 4498 Internship in Exercise Science (3)**
A supervised experience in planning, staging, and evaluating a formal practicum in exercise science or a related field.
Prerequisite: Senior standing or permission of instructor.

KOREAN COURSES (KOR)

- KOR 1101 Introductory Korean I (3)**
Introduction to the Korean Language.
- KOR 1102 Introductory Korean II (3)**
Introduction to the Korean Language.
Prerequisite: KOR 1101 or permission of instructor.
- KOR 2201 Intermediate Korean I (3)**
Progressive development of basic language skills in Korean.
Prerequisite: KOR 1102 or permission of instructor.
- KOR 2202 Intermediate Korean II (3)**
Progressive development of basic language skills in Korean.
Prerequisite: KOR 2201 or permission of instructor.

LANGUAGE AND CULTURE ON LOCATION (LCL)

- LCL 2201 Language and Culture on Location I (1-3)**
The study of selected languages and/or cultures on location.
- LCL 2202 Language and Culture on Location II (1-3)**
The study of selected languages and/or cultures on location.

LATIN COURSES (LAT)

Note: For additional information, see Placement in Academic Courses.

- LAT 1131 Introductory Latin I (3)**
Introduction to the Latin language with emphasis on pronunciation, basic vocabulary, fundamentals of grammar, and graded readings.
- LAT 1132 Introductory Latin II (3)**
Continuation of LAT 1131.
Prerequisite: LAT 1131 or permission of instructor.
- LAT 2231 Intermediate Latin I (3)**
Continuation of LAT 1131-1132.
Prerequisite: LAT 1132 or permission of instructor.
- LAT 2232 Intermediate Latin II (3)**
Continuation of LAT 2231, culminating in the reading of authentic passages from selected Latin authors.
Prerequisite: LAT 2231 or permission of instructor.

- LAT 3331 Readings in Latin Literature (3)**
Readings in a selected author, period, or genre.
May be repeated for credit. Prerequisite: LAT 2232 or permission of instructor.

LAW COURSES (LAW)

- LAW 2221 Legal Environment of Business (3)**
This course is an introduction to the fundamental concepts, principles, and rules of law and equity that apply to business activities. This course provides an overview of law in general, the American legal system, federal and state court procedures, effects on law-making by legislative, judicial, and administrative procedures. The course may also include constitutional law, business ethics, contracts, products liability, sales and commercial paper.
- LAW 3323 Entrepreneurial Law (3)**
This course is designed to explore in-depth the type of legal and ethical issues that entrepreneurs, small business owners, and family business owners encounter in the marketplace.
Prerequisite: Lower-level Core.
- LAW 4420 Administrative Law (3)**
Administrative law is the law relating to administrative agencies. An overview of the legal environment of public administration. The focus is on the powers and procedures of administrative agencies including administrative discretion, rule-making, investigations, prosecuting, negotiating and settlement based on Constitutional law, statutory law, common law, and agency-made law and the liability of governments and their officers.
Prerequisite: LAW 2221.
- LAW 4425 Investigation and Evidence (3)**
An examination of theories and practices of the investigation process in the criminal justice system. An analysis of information and application of operational techniques relating to crime scenes, forensic sciences, interviews, and interrogations. A study of issues concerning rules of evidence, trial testimony, and other constitutional processes.
Prerequisites: LAW 2221.
- LAW 4465 Special Topics in Law (3)**
This course examines a selected legal topic of interest that is not covered in other course offerings. The topic for the semester will be indicated in advance. Students may repeat the course for credit so long as the selected topics are different. Maximum credit of six hours.
Note: This course may not be substituted for any required course.

LEADERSHIP COURSES (LDR)

- LDR 1100 Introduction to Leadership (3)**
This course helps students apply leadership knowledge, skills and techniques to campus and community activities. Practical exercises, role-playing, class interaction and lecture / discussion with established leaders reinforce learning and aid each student in developing a personal leadership plan.
- LDR 2200 Tools for Leaders (3)**
This course helps developing leaders use tools essential to effective leadership including briefing, writing, delegation, media relations, meeting management and group dynamics skills.
Prerequisite: LDR 1100.
- LDR 2210 Leadership and Interpersonal Skills (3)**
This course will focus on analyzing and applying the theories and research regarding the interpersonal skills required for leaders. Emphasis

- will also be placed on enhancing and developing interpersonal leadership skills in each student.
- LDR 2220 Contemporary Issues of Women and Leadership (3)**
Through an understanding and analysis of culture and current issues, this course will help each student explore the capabilities and leadership women bring to organizations. Through an application of models, styles, and theory, students will develop better self-awareness and understand the unique capabilities of women in leadership positions.
- LDR 2221 Case Studies in Leadership I (1)**
Case Study/Studies of a specific person or persons who have demonstrated leadership attributes that can be applied to leadership development today. *Permission of Instructor required.*
- LDR 2222 Case Studies in Leadership II (1)**
Case Study/Studies of a specific person or persons who have demonstrated leadership attributes that can be applied to leadership development today. *Permission of Instructor required.*
- LDR 2223 Case Studies in Leadership III (1)**
Case Study/Studies of a specific person or persons who have demonstrated leadership attributes that can be applied to leadership development today. *Permission of Instructor required.*
- LDR 3300 Leadership Theory (3)**
This course helps students understand and apply what writers, theorists and leaders tell us about how to lead effectively in a rapidly changing world. The course also exposes students to what leaders are reading. Experienced leaders will provide guest instruction. *Prerequisite: LDR 2200.*
- LDR 3320 Great Leaders (3)**
We significantly increase our understanding of leadership if we view leadership as practiced in the context of the world around us. An excellent way to do this is to evaluate the lives of those who have been recognized as great leaders in many different eras, fields, and environments. The issues they faced and how they led provide wonderful insight on how to lead. We will analyze their successes and their failures and learn from both. We will evaluate the best of leadership practices by studying the lives of great leaders throughout history. *Prerequisites: LDR 3300.*
- LDR 4400 Leadership Seminar (3)**
A capstone course that includes principles, practices and presentations by experienced leaders from the public and private sectors. This course helps developing leaders synthesize knowledge and prepare for future leadership challenges. *Prerequisites: Leadership minor or enrollment in the University Honors Program or permission of instructor.*
- LDR 4402 Leadership Seminar Field Experience (2)**
This course includes field trips to visit CEOs, senior state government officials and military leaders, as well as business and dinner etiquette training and one-on-one mentoring by campus faculty and administrative leaders. This course is open to a limited number of developing leaders who have been active in campus and/or community activities. *Prerequisite: Permission of instructor. Co-requisite: LDR 4400.*
- LDR 4444 Leadership Internship (3 to 6 credit hours, may be repeated for no more than 6 total hours)**
Supervised internship in an office or location approved by the director of the Institute for Leadership Development, resulting in deliverables agreed upon by the director and intern. *Prerequisites: junior or senior status, and permission of leadership adviser. Students will submit a written request to the director at least two weeks in advance of the term in which study is to be undertaken.*
- LDR 4450 Leadership Service Learning (1 to 6 credit hours, may be repeated for no more than 6 total hours)**
Supervised service learning leadership on a project with an agency or aligned with a service organization as approved by the director of the Institute for Leadership Development. *Prerequisites: junior or senior status and permission of leadership advisor. Students will submit a written request to the director at least two weeks in advance of the term in which study is to be undertaken.*
- LDR 4493-94 Guided Independent Study (1 to 3 credit hours)**
Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills. *Prerequisites: junior or senior status, permission of leadership advisor. A written request must be submitted to the instructor at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course in which a grade of D or below has been earned.*

LEGAL STUDIES COURSES (LGL)

- LGL 2200 Introduction to Legal Studies (3)**
This course provides an introduction to the structure and processes of the American legal system as well as study of the development and patterns of growth of the legal profession (including, but not limited to the responsibilities, requirements and benefits for attorneys, judges, prosecutors, jury analyst, specialized testimony experts, forensic investigators and paralegals). Focus is placed on the examination of the central issues and processes of the entire legal system and how individuals and “workgroups” cooperatively organize and influence the American legal system. *This course will satisfy the prerequisite of CJ 1101 for CJ 3352, CJ 4442 and CJ 4447 for Legal Studies minors and Non-Criminal Justice Majors.*
- LGL 3300 Legal Research and Writing (3)**
This course will provide a comprehensive working knowledge and understanding of research materials and research tools. Key competencies will include the use of both manual and automated forms of legal references, understanding and distinguishing sources of law, legal research skills and the analysis of legal research problems. *Prerequisite: ENG 1101.*
- LGL 4400 Seminar in Legal Studies (3)**
The course will include an overview of the legal assisting profession, the duties and ethical responsibilities of the legal professionals including the attorney’s code of conduct. It will examine law office practices and procedures, which includes case assignment, document handling and filing, time keeping, billing and law office communication. Furthermore, this course provides the facts and principles that form the basis of law related to Criminal Prosecution and Defense, Bankruptcy, Business Organizations, Litigation, Real Estate, and Estate Planning and Probate.

MARINE BIOLOGY COURSES (MB)

Offered at Dauphin Island Sea Lab (DISL) only

Courses are offered during the summer semester only. Because course offerings change, check current DISL summer bulletin for specific course offerings and descriptions.

- MB 4402 Marine Invertebrate Zoology (4)**
A study of the natural history, systematics, and morphology of marine invertebrates from a variety of habitats in the Gulf of Mexico. Participation in extended field trips is a required part of the course.
Prerequisites: BIO 1101/L101, 2229/L229, CHM 1143/L143.
- MB 4403 Marine Vertebrate Zoology (4)**
Biology of marine vertebrates emphasizing systematics, behavior, physiology, and ecology of local forms.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.
- MB 4404 Marine Botany (4)**
A general survey of algae and vascular plants associated with the marine and estuarine environment.
Prerequisites: BIO 1101/L101, 2229/L229, CHM 1143/L143.
- MB 4410 Introduction to Oceanography (4)**
A general introduction to the physics, chemistry, geology, and biology of the oceans.
Prerequisites: BIO 1101/L101, 2229/L229, CHM 1143/L143.
- MB 4419 Marine Aquaculture (2)**
Techniques in live animal culture with an emphasis on basic principals that can be applied to the culture of any organism for research, display, or commercial profit.
Prerequisites: BIO 1101/L101, 2229/L229, CHM 1143/L143.
- MB 4423 Marine Ecology (4)**
Lecture and laboratory studies of bioenergetics, community structure, population dynamics, predation, competition, and speciation in marine ecosystem.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.
- MB 4427 Ecology of the Florida Everglades (2)**
This course examines the natural history and ecology of one of the world's rarest and most endangered wilderness areas. The Everglades is the only area of our planet to be designated as a National Park, an International Biosphere Reserve, and a World Heritage Park. This two-week course will consist of a week of intensive lectures and discussions focusing on the history, geology, hydrology, and biota of this system, and then a week of intense field time to examine the Everglades and associated systems.
Prerequisites: CHM 1143/L143, BIO 2229/L229
- MB 4428 Shark and Ray Biology (2)**
An introduction to the biology of sharks and rays, with special emphasis on regional shark fauna and field techniques.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.
- MB 4430 Dolphins and Whales (2)**
Lectures, audiovisual presentations, and practical exercises to guide students to further study of cetaceans.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.
- MB 4432 Biology and Conservation of Marine Turtles (2)**
An overview of the biology and conservation of marine turtles, including identification, distribution, nesting behavior, migratory behavior, and feeding ecology.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.

- MB 4438 Coastal Wetlands Ecology (3)**
This course will focus on coastal and near shore wetland areas, with an emphasis on the biogeochemical processes that occur within.
Prerequisites: BIO 1101/L101, BIO 2229/L229, CHM 1143/L143.
- MB 4451 Marine Technical Methods (2)**
This course will provide an introduction to different methods of sensing the ocean, including building and testing simple sensors, e.g., temperature and light, using Arduino microcontrollers and software, use of instruments to collect high-resolution data, and some background on how technology has led to key advances in marine science. The course will be primarily project-based, with students working together to build instruments, learn basic programming skills to control sensors, and going in the field to test instruments and collect environmental data.
Prerequisite: CHM 1143/L143, BIO 2229/L229
- MB 4460 Introduction to Neurobiology (4)**
The study of the structure, development, physiology, and pharmacology of the nervous systems and sense organs.
Prerequisite: Permission of instructor.
- MB 4461 Environmental Application of Geographic Information Systems (2)**
This course consists of learning applied mapping and analysis with GIS and will leverage other geospatial techniques including remote sensing, geo-visualization, and spatial analysis with particular emphasis on environmental application.
Prerequisite: CHM 1143/L143, BIO 2229/L229
- MB 4470 Marine Restoration Ecology (2)**
The course provides an overview of the scientific and technical principles of marine habitat restoration. The students will discuss the role of key ecological concepts in restoration and the role of restoration in science and society. Students will learn how to design restoration projects and monitoring plans.
Prerequisites: CHM 1142/L142, BIO 2229/L229.

MANAGEMENT COURSES (MGT)

- MGT 3300 Principles of Management (3)**
An introduction to management functions, principles, and techniques. The course includes a discussion of planning, organizing, influencing through leadership, and control within the organization.
- MGT 3301 Honors Principles of Management (3)**
An introduction to management functions, principles, and techniques. The course includes a discussion of planning, organizing, influencing through leadership, and control within the organization for the superior student.
Prerequisites: SCOB Honors students and permission of the Associate Dean.
- MGT 3380 Principles of Supervision (3)**
An introduction to supervision principles, best practices and concepts. Topics discussed include delegation, planning and goal setting, employee training and motivating team coaching, communicating, and appraising.
Prerequisites: Lower-level Core, MGT 3300.
- MGT 4430 Purchasing Management (3)**
This course presents an introduction to core principles and procurement activities within the broader context of an organization's supply chain. Topics focus on the development of effective purchasing practices, quality methods, and supplier relationships.
Prerequisites: Lower-level Core, MGT 3300, MKT 3300.

- MGT 4440 Developing and Leading Effective Teams (3)**
An in-depth study of team development and team leadership in the work setting focused to better understand team functions under varying task conditions. Special emphasis will be placed on the leadership of work teams in both face-to-face and virtual settings for effective performance and member satisfaction. This course deals extensively with maintenance and task behaviors of team members.
Prerequisites: Lower-level Core, MGT 3300
- MGT 4450 Corporate Social Responsibility and Sustainability (3)**
This course will enable students to understand the rationale behind corporate social responsibility (CSR) and sustainability. It will take students through an evaluation of risks and potential impacts in decision making, enabling them to recognize the links between the success of an organization and the well-being of a community/society along with introducing methods and standards of integrating CSR throughout an organization.
Prerequisites: Lower-level Core, MGT 3300
- MGT 4460 Introduction to Project Management (3)**
This course provides an introduction to essential principles governing effective project management and an application of tools and techniques that can be applied to defining projects, establishing task structure, planning and budgeting, managing of resources to achieve the project objectives, and post project evaluation.
Prerequisites: Lower-level Core, MGT 3300, QM 3345.
- MGT 4471 Leadership and Change (3)**
A study of leadership and change concepts applied to foundational concepts of leadership, motivational theories, and organizational change theories. The primary focus of the course will be directed toward the application of these theories, practices, and concepts in an organizational setting, designed to enable an achievement of organizational goals and objectives, while also undertaking application oriented activities that encourage the development of critical thinking skills about the concepts. Emphasis will be placed on key similarities and differences between US organizations and international organizations.
Prerequisite: Lower-level Core, MGT 3300.
- MGT 4472 Organizational Behavior (3)**
A study of individual and group behavior in business organizations.
Prerequisite: Lower-level Core, MGT 3300.
- MGT 4475 Entrepreneurial Management (3)**
This course examines how startups, small companies & family enterprises reach the marketplace and sustain their businesses. The course centers around the development of the business plan, focusing on creativity and innovation. Emphasizes entrepreneurial opportunities & new venture processes both domestically and internationally.
Prerequisite: Lower-level core, MGT 3300.
- MGT 4478 Managing in a Global Environment (3) (capstone)**
This course is a survey and analysis of topics important to successfully managing multinational business operations. Included in the course are considerations of environmental analysis, modes of entry, planning and cross-cultural issues in directing, decision-making, organizing and staffing operations in multinational enterprises. Capstone for the Global Business Core.
Prerequisites: Lower-level Core, ECO 4451, HRM 3375, MGT 4471, and MKT 4468.
- MGT 4479 Management Seminar (3) (capstone)**
This course is a study of current management issues which examines the application of traditional management theory in the context of current management problems. This is the capstone course for the Management Concentration.
Prerequisites: Lower-level Core, MGT 4440, MGT 4450, and MGT 4472.
- MGT 4486 Honors Leadership and Change (3)**
A study of leadership and change concepts applied to foundational concepts of leadership, motivational theories, and organizational change theories for the superior student. The primary focus of the course will be directed toward the application of these theories, practices, and concepts in an organizational setting, designed to enable an achievement of organizational goals and objectives, while also undertaking application oriented activities that encourage the development of critical thinking skills about the concepts. Emphasis will be placed on key similarities and difference between US organizations and international organizations.
Prerequisites: Lower level core, MGT 3301, SCOB Honors student, and permission of the Associate Dean.
- MGT 4487 Honors Managing in a Global Environment (3)**
This course is a survey and analysis of topics important to successfully managing multinational business operations for the superior student. Included in the course are considerations of environmental analysis, modes of entry, planning and cross-cultural issues in directing, decision-making, organizing and staffing operations in multinational enterprises. Capstone for the Global Business Core.
Prerequisites: Lower-level core, MGT 3301, SCOB Honors Student, and permission of the Associate Dean.
- MGT 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research. *Note: This course may not be substituted for any required course.*
- MGT 4496 Special Topics in Management (3)**
This course examines a selected management topic of interest that is not covered in depth in other course offerings. Prior topic approval by the Associate Dean of the Sorrell College of Business is required.
Prerequisite: Lower-level Core, MGT 3300.
- MGT 4499 Management Internship (3)**
The Management Internship provides students with the opportunity to gain real-world work experience in the field of management. Students gain practical, professional experience in conjunction with academic development under the supervision of both a faculty member and a supervisor within an organization. A written request must be submitted to the department chair at least two weeks in advance of the semester or term in which the study is to be undertaken.
Note: This course may not be substituted for any required course. Students may earn no more than 6 hours of internship credit.
Prerequisite: Junior or senior standing, department chair approval.

MARKETING COURSES (MKT)

- MKT 3300 Principles of Marketing (3)**
This course examines principles and practices for creating, delivering, capturing, and communicating value to customers. Topics focus on the marketing function of an organization; environmental factors

- influencing marketing decisions; and, the development of marketing strategies to deliver long-term customer value.
- MKT 3301 Honors Principles of Marketing (3)**
This course examines principles and practices for creating, delivering, capturing, and communicating value to customers. Topics focus on the marketing function of an organization; environmental factors influencing marketing decisions; and, the development of marketing strategies to deliver long-term customer value for the superior student.
Prerequisites: SCOB Honors Student, and permission of the Associate Provost.
- MKT 3362 Promotion Management (3)**
This course examines the concepts and techniques associated with developing an effective marketing communications strategy. Topics focus on the planning, creation, utilization, and placement of promotional programs designed to support marketing strategy.
Prerequisite: MKT 3300.
- MKT 3364 Product and Service Innovation (3)**
This course examines the role of marketing in innovation and its critical contribution to marketplace success. Topics focus on the principles used to identify marketing opportunities and the creative thinking needed to respond to them with new ideas, products and services.
Prerequisite: MKT 3300.
- MKT 3367 Digital Marketing (3)**
This course provides a broad overview of the digital marketing strategies and techniques required for successful marketing efforts in a digital environment. Students will gain a fundamental understanding of the digital marketing core principles. Topics ranging from web page design, analytics, email marketing, social media marketing, and mobile marketing.
- MKT 4461 Professional Selling (3)**
This course examines personal selling as a professional marketing activity. It centers on fostering relationships by developing interpersonal communication skills, understanding buyer motivations, and adding value to clients through long-term relationships. Topics focus on the economic, psychological, and social aspects of professional selling; direct selling techniques, and the sales process with an emphasis on building customer relationships.
Prerequisite: MKT 3300.
- MKT 4462 Consumer Behavior (3)**
This course examines the consumer as a decision maker. Topics focus on the internal and external influences underlying purchase decisions and their implications for marketing strategy. Primary emphasis is on final consumers with a secondary emphasis on organizational buyers.
Prerequisite: MKT 3300.
- MKT 4463 Retailing (3)**
This course examines the principles and practices of retail management. Topics focus on retail format; store location and layout; merchandise planning; inventory management; atmospherics; and customer service.
Prerequisite: MKT 3300.
- MKT 4464 Marketing Research (3)**
This course examines the foundational role of research to the formulation of sound strategic marketing decisions. Topics focus on problem definition, research design, data acquisition, analysis, and interpretation. The systematic
- approach of harnessing data/information to drive effective marketing decision-making is also considered.
Prerequisite: MKT 3300.
- MKT 4465 Supply Chain Management (3)**
This course examines the key concepts and principles associated with the flow of materials and information from suppliers to customers for both manufacturing and service firms. Topics focus on the procurement, operations, transportation, and integration activities associated with a firm's distribution system.
Prerequisite: MKT 3300.
- MKT 4468 Global Marketing (3)**
This course examines the impact the global environment has on marketing strategy. Topics focus on the cultural, political, legal, and economic differences among nations as they affect marketing opportunities and operations.
Prerequisites: Lower-level Core, MKT 3300.
- MKT 4469 Marketing Management (3)**
This course is the "capstone" marketing course. It examines the managerial aspects of marketing which involve the integration of marketing research, customer analysis and marketing strategy to provide long-term value to customers. Topics focus on the application of marketing concepts, procedures, and practices to solve marketing problems and develop strategic marketing plans.
Prerequisite: 15 semester hours in marketing courses beyond MKT 3300.
- MKT 4470 Honors Global Marketing (3)**
This course examined the impact the global environment has on marketing strategy for the superior student. Topics focus on the cultural, political, legal, and economic differences among nations as they affect marketing opportunities and operations.
Prerequisites: Lower-level core, MKT 3301, SCOB Honors Student, and permission of the Associate Dean.
- MKT 4472 Sales Force Management (3)**
This course examines the key concepts used to formulate, implement, and evaluate a sales program. Topics focus on forecasting sales and sales management responsibilities including recruitment, training, leadership, organization, motivation and retention of the sales force.
Prerequisites: MKT 3300 and MGT 3300.
- MKT 4480-81 Special Topics in Marketing (3)**
This course examines a selected marketing topic of interest that is not covered in other course offerings. The topic for the semester will be indicated in advance. Students may repeat the course for credit so long as the selected topics are different. Maximum credit of six hours.
Note: This course may not be substituted for any required course.
Prerequisite: MKT 3300
- MKT 4491-92 Guided Independent Research (3)**
This course involves directed research on marketing topics of mutual interest to a student and faculty member. Maximum credit of six hours.
Note: This course may not be substituted for any required course.
Prerequisite: MKT 3300.
- MKT 4493-94 Guided Independent Study (3)**
This course involves directed project work of

mutual interest to a student and faculty member. Maximum credit of six hours. *Note: This course may not be substituted for any required course.*

Prerequisite: MKT 3300

MKT 4499 Marketing Internship (3)

This course involves the practical application of marketing principles and theories in an actual business setting. Students gain practical, professional experience in conjunction with academic development under the supervision of both a faculty member and a manager within an organization.

Note: This course may not be substituted for any required course.

Prerequisites: Six semester hours in marketing courses beyond MKT 3300 and permission of instructor.

MEDICAL COURSES (MLS)

(Offered in hospital internship only)

- MLS 4400 Clinical Urinalysis (1)**
The imparting of skills for performing and interpreting routine urinalyses as well as special urinalysis procedures.
- MLS 4401 Clinical Urinalysis Lab (1)**
This lab section includes specimen handling procedure manual, audio-visual, quality control, record keeping, and reporting system.
- MLS 4402 Clinical Microbiology (4)**
This lecture course covers areas of bacteriology, mycology, and virology.
- MLS 4403 Clinical Microbiology Lab (2)**
This lab teaches identification methods, isolation methods, and current clinical techniques for working with bacteria, molds, viral, and rickettsia organisms.
- MLS 4404 Clinical Parasitology (2)**
Discussions concerning proper collection and handling of specimens for detection of parasites, techniques used to detect parasites and morphological features, and life cycles of important organisms.
- MLS 4405 Clinical Parasitology Lab (1)**
Use of the laboratory procedures and techniques for isolation and identification of parasitic organisms.
- MLS 4406 Clinical Hematology (4)**
Detailed studies of blood, including cell types, functions, number of cells, clotting mechanisms, coagulation disorders, platelet disorders, and other pertinent topics.
- MLS 4407 Clinical Hematology Lab (2)**
Special studies and training involving cell counts, hemoglobin and hematocrit determinations, and other special hematology procedures.
- MLS 4408 Immunohematology (3)**
This block involves blood banking, studies of the ABO blood group system, the Rh system, blood typing, antibody studies, and effects of transfusion.
- MLS 4409 Immunohematology Lab (1)**
Blood banking studies and techniques. Clinical applications of procedures under direct supervision.
- MLS 4410 Clinical Serology (2)**
Lectures emphasizing the principles and interpretations of immunological procedures. The study of the immune systems of the body. Antigen-antibody studies and techniques.

- MLS 4411 Clinical Serology Lab (1)**
In this lab, the student becomes proficient in running and interpreting serology (immunology) tests.

- MLS 4412 Clinical Chemistry (6)**
This lecture course focuses on the principles and interpretations of biochemical analytical methods, clinical calculations, and quality control.

- MLS 4413 Clinical Chemistry Lab (4)**
This lab rotation provides the practical experience of running biochemical tests and interpreting their results. Some prior experience with instrumentation is required in order to understand how to use and care for clinical instruments.

MILITARY SCIENCE AND LEADERSHIP COURSES (MSL)

- MSL 1101 Foundations of Officership (1)**
This course features an introduction to life in the U.S. Army. Topics include leadership, the unique duties and responsibilities of officers, the organization and role of the Army, basic life skills pertaining to fitness and communication, and an analysis of Army values and expected ethical behavior.
Co-requisite: MS 1104.
- MSL 1102 Basic Leadership (1)**
This course provides students with a basic knowledge of common military skills and presents the fundamental leadership concepts and doctrine of the U.S. Army. Topics include the practice of basic skills that underlie effective problem solving, application of active listening and feedback skills, examination of factors that influence leader and group effectiveness, and an examination of the officer experience.
Co-requisite: MS 1105.
- MSL 1104 Military Basic Leadership Lab I-A (1)**
Leadership lab is required for Army ROTC students. The student will receive training in drill and ceremonies, field craft, individual movement techniques, squad tactics, map reading and land navigation, first aid, and use and maintenance of the M16 Rifle.
- MSL 1105 Military Basic Leadership Lab I-B (1)**
Leadership lab is required for Army ROTC students. The student will receive training in drill and ceremonies, field craft, individual movement techniques, squad tactics, map reading and land navigation, first aid, and use and maintenance of the M16 Rifle.
- MSL 2201 Individual Leadership Studies (2)**
This course develops the knowledge of self, self-confidence and individual leadership skills as well as develops problem solving and critical thinking skills and the application of communication, feedback, and conflict resolution. Emphasized areas include personal development, goal setting, communication, problem solving and decision-making, leadership, teamwork, the group.
Co-requisite: MS 2204.
- MSL 2202 Leadership and Teamwork (2)**
This course focuses on self-development guided by knowledge of self and group processes by focusing on challenging current beliefs, knowledge and skills.
Co-requisite: MSL 2205.
- MSL 2204 Military Basic Leadership Lab II-A (1)**
Leadership lab is required for Army ROTC students. The students will receive training in drill, physical training, rappelling, water survival, tactics, marksmanship, night operations, and land navigation.

- MSL 2205 Military Basic Leadership Lab II-B (1)**
Leadership lab is required for Army ROTC students. The students will receive training in drill, physical training, rappelling, water survival, tactics, marksmanship, night operations, and land navigation.
- MSL 3301 Leadership and Problem Solving (3)**
This course examines the basic skills that underlie effective problem solving by analyzing the role officers played in the transition of the Army from Vietnam to the 21st Century, analysis of military missions and the planning of military operations, the features and execution of the Leadership Development Program, and the execution of squad battle drills.
Prerequisite: Permission of the Professor of Military Science for non-contracted cadets.
Co-requisite: MSL 3304.
- MSL 3302 Leadership and Ethics (3)**
This course probes leader responsibilities that foster an ethical command climate by developing cadet leadership competencies and applying principles and techniques of effective written and oral communication. Students are prepared for success at the ROTC National Advanced Leadership Course.
Prerequisite: Permission of the Professor of Military Science for non-contracted cadets.
Co-requisite: MSL 3305.
- MSL 3304 Military Advanced Leadership Lab III-A (1)**
Leadership Lab is required for all Army ROTC students. The student will receive training in troop-leading procedures, mission planning, squad tactics, land navigation, individual movement techniques, water survival and rappelling.
- MSL 3305 Military Advanced Leadership Lab III-B (1)**
Leadership Lab is required for all Army ROTC students. The student will receive training in troop-leading procedures, mission planning, squad tactics, land navigation, individual movement techniques, water survival and rappelling.
- MSL 4401 Leadership and Management (3)**
This course builds on the experience gained at the National Advanced Leadership Course in order to solve organizational and staff problems a discusses staff organization and functions, analysis of counseling responsibilities and methods, the principles of subordinate motivation and organizational change. Students will apply leadership and problem solving principles to a case study and or simulation.
Prerequisite: Permission of the Professor of Military Science for non-contracted cadets.
Co-requisite: MSL 4404.
- MSL 4402 Officership (3)**
This course is designed to explore topics relevant to Second Lieutenants entering the U.S. Army and focuses on the legal aspects of decision making leadership, analyzing Army organization from the tactical to the strategic level, assessing administrative and logistical functions performance of platoon leader actions, and an examination of leader responsibilities that foster an ethical command climate.
Prerequisite: Permission of the Professor of Military Science for non-contracted cadets.
Co-requisite: MSL 4405.
- MSL 4404 Military Advanced Leadership Lab IV-A (1)**
Leadership lab is required for all Army ROTC students. The student will receive training in troop-leading procedures, mission planning, squad tactics, land navigation, individual movement techniques, water survival and rappelling.

- MSL 4405 Military Advanced Leadership Lab IV-B (1)**
Leadership lab is required for all Army ROTC students. The student will receive training in troop-leading procedures, mission planning, squad tactics, land navigation, individual movement techniques, water survival and rappelling.
- MSL 4497 Senior Seminar in Military Science (1-3)**
This is a capstone course for Senior Army ROTC Contracted Cadets designed to: 1.) help senior cadets integrate the knowledge gained from their other required Military Science Leadership courses; and 2.) assist them in developing analytical thinking skills through practical use of these skills in simulated leadership roles among their peers using a seminar approach.
Note: This MSL 4497 Senior Seminar in Military Science course is repeatable up to 3 times and receive 1 credit hour per course per semester. This course may not be substituted for any other required Military Science courses.
Prerequisite: Completion of all other advanced level Military Science Leadership courses in the Military Science Leadership minor or Army ROTC program and will require permission of the Professor of Military Science to enroll.

MATHEMATICS COURSES (MTH)

- MTH 0096 Pre-Algebra (3)**
Developmental / remedial instruction including operations with whole numbers, decimals, and fractions. Ratio, percent and equation solving will be emphasized.
Note: This course is for institutional credit only and will not be used in meeting degree requirements. This course will not substitute for any general studies requirement.
- MTH 1100 Fundamentals of Algebra (3)**
Developmental / remedial instruction including integer and rational arithmetic, linear equations, inequalities, integer exponents, polynomials and factoring, rational expression.
Prerequisite: Placement or a grade of C or better in MTH 0096. Note: This course is for institutional credit only and will not be used in meeting degree requirements. This course will not substitute for any general studies requirement.
- MTH 1105 Intermediate Algebra (3)**
Developmental / remedial instruction including real and complex numbers; polynomials and factoring; rational exponents; roots and radicals; linear equations and inequalities; quadratic equations; and graphing.
Prerequisite: placement or a grade of C or better in MTH 1100. Note: This course is for institutional credit only and will not be used in meeting degree requirements. This course will not substitute for any general studies requirement.
- MTH 1110 Finite Mathematics (3)**
Topics include a survey of logic, sets, counting, permutations, combinations, basic probability, an introduction to statistics, and matrices and their applications to graph theory.
Prerequisite: appropriate score on mathematics placement test, advanced placement, or a grade of C or better in MTH 1105.
Note: Credit will not count toward a major or minor in mathematics.
- MTH 1112 Pre-Calculus Algebra (3)**
Topics include the algebra of functions, including polynomial, rational, exponential, and logarithmic functions. The course also contains systems of equations and inequalities, linear and quadratic equations and inequalities, graphs of polynomials, and the binomial theorem.

Prerequisite: appropriate score on mathematics placement test, advanced placement, or a grade of C or better in MTH 1105. Note: Credit will not count toward a major or minor in mathematics.

MTH 1114 Pre-Calculus Trigonometry (3)
This course covers trigonometric functions including definitions, identities, and trigonometric equations, applications as well as properties and graphs of trigonometric functions and their inverses. Also included are the law of sines, the law of cosines, polar coordinates, vectors, and conic sections.
Prerequisite: MTH 1112 with a grade of C or better or advanced placement. Note: Credit will not count toward a major or minor in mathematics.

MTH 1125 Calculus I (4)
Topics include limits of functions, derivatives of algebraic, trigonometric, exponential and logarithmic functions and their inverses and the definite integral and its application to area problems. Applications of the derivative including maximum and minimum problems, and curve sketching using calculus.
Prerequisite: A grade of C or better in MTH 1114 or advanced placement.

MTH 1126 Calculus II (4)
Applications of integration (such as volume, arc length, work, and average value), techniques of integration, indeterminate forms, infinite series, polar coordinates, and parametric equations.
Prerequisite: MTH 1125.

MTH 2201 Calculus and its Applications (3)
An introduction to the basic ideas and techniques of differential and integral calculus, especially as they relate to problems involving maximum and minimum values of functions and marginal analysis.
Prerequisite: MTH 1112 or 1114 with a grade of C or better, or advanced placement. Note: Credit will not count toward a major or minor in mathematics.

MTH 2215 Applied Discrete Mathematics (3)
Discrete mathematics with a computer science orientation is presented. Topics include sets, relations, logic, algorithms, and recursion.
Prerequisite: A grade of C or better in MTH 1112. Note: Credit will not count toward Area III requirements nor will it count toward any major or minor in mathematics.

MTH 2220 Computer Programming for Mathematics (3)
Structured programming of a mathematical nature, arithmetic computations, algorithm design and control structures, functions and subroutines intrinsic functions, array processing.
Prerequisite: MTH 1125.

MTH 2227 Calculus III (4)
Topics include vector functions, multi-variable functions, partial derivatives and their applications, quadric surfaces, multiple integrals, and vector calculus, including Green's theorem, curl, divergence, surface integrals, and Stoke's theorem.
Prerequisite: MTH 1126.

MTH 2230 Applied Linear Algebra (3)
This course covers some topics in Linear Algebra with an orientation towards applications in fields that use least squares regression. Topics include the algebra and geometry of vectors, matrices and their operations, determinants, systems of linear equations, linear independence, transformations, linearization and least square problems.
Prerequisite: MTH 1125

MTH 2251 Mathematical Concepts for K-6 Teachers I (3)
An examination of some of the major topics encountered in the teaching of elementary mathematics with emphasis on number theory order of operations, definitions of and operations with rational and irrational numbers, estimation, definitions and algorithms of the four operations, numeration systems, bases other than 10, and problem solving.

Prerequisite: MTH 1110 or 1112. Note: Credit will not count toward Area III requirements nor will it count toward any major or minor in mathematics.

MTH 2252 Mathematical Concepts for K-6 Teachers II (3)
An examination of some of the major topics encountered in the teaching of elementary school geometry with emphasis on measurement, area, volume, congruence, polygons, circles, constructions, motion geometry, polyhedra, and similarity.

Prerequisite: MTH 1110 or 1112. Note: Credit will not count toward Area III requirements nor will it count toward any major or minor in mathematics.

MTH 3300 Selected Topics (3)
Examination of a designated topic of special and/or current interest and importance, which is generally not covered in regularly offered courses in the mathematics curriculum.

MTH 3311 Differential Equations (3)
An introduction to ordinary differential equations. Topics include first order methods, linear equations, the Laplace transforms, systems of equations, and applications.
Prerequisite: MTH 2227.

MTH 3318 Introduction to Advanced Mathematics (3)
Topics include set theory, equivalence relations and partitions, logic, number systems, functions, and proof writing techniques.
Prerequisite: MTH 1126.

MTH 3325 College Geometry (3)
Axiomatic systems; incidence and separation properties of planes and space; metric and synthetic approaches; geometric inequalities; parallel postulate; area-theory; circles in a plane; models for hyperbolic and elliptic geometries; and constructions with a straightedge and compass.
Prerequisite: MTH 3318.

MTH 3331 Linear Algebra (3)
Matrices, systems of equations, determinants, eigenvalues and eigenvectors.
Prerequisite: MTH 1126.

MTH 3364 Vector Calculus (3)
Differentiation in several variables. Line and surface integrals. Potential theory and differential forms.
Prerequisite: MTH 2227.

MTH 4412 Discrete Mathematics (3)
Topics can include counting techniques such as Pigeonhole Principle, permutations, combinations, binomial coefficients, inclusion-exclusion, and relations and graphs.
Prerequisites: MTH 2227 and 3318.

MTH 4415 Introduction to Partial Differential Equations (3)
Partial differential equations and boundary value problems, Fourier series, the heat equations, vibrations of continuous systems, the potential equation, spectral methods.
Prerequisites: MTH 3311 and MTH 3331

MTH 4420 Graph Theory (3)
The elements of graph theory including: trees; bipartite, chordal and planar graphs; graph coloring; graph traversals; and flows.
Prerequisites: MTH 2227 and 3318 or permission of instructor.

- MTH 4422 Numerical Analysis (3)**
Topics include finite differences, interpolation, numerical integration and differentiation, solutions of equations of one variable, linear systems, and numerical solutions of ordinary differential equations.
Prerequisites: MTH 2220, 2227 and 3331, or permission of instructor.
- MTH 4424 Real Analysis I (3)**
The real number system, completeness, limits, continuity, sequences, differentiation, and the Riemann integral.
Prerequisites: MTH 2227 and 3318.
- MTH 4425 Real Analysis II (3)**
Sequences and series of functions, series, and a continuation of the integral to include the Fundamental Theorem of Calculus.
Prerequisite: MTH 4424.
- MTH 4426 Complex Analysis (3)**
Complex numbers, elementary functions and their mappings, complex limits and power Cauchy integral formula.
Prerequisites: MTH 2227 and 3318 or permission of instructor.
- MTH 4436 Number Theory (3)**
Divisibility, congruencies, prime numbers, Fermat's theorem, Diophantine equations, number theoretic functions.
Prerequisites: MTH 2227, 3318.
- MTH 4437 Matrix Analysis and Applications (3)**
Fundamentals of operators in finite dimensional Hilbert spaces, mapping and algebras, functional calculus, matrix monotone and matrix convex functions, quantum entropy, matrix means, majorization and singular values.
Prerequisites: MTH 4424 and MTH 3331
- MTH 4441 Abstract Algebra I (3)**
Properties of the integers, modular arithmetic. Elementary theory of groups, finite groups, subgroups, cyclic groups, permutation groups. Group isomorphisms and homomorphisms.
Prerequisites: MTH 2227, 3318, and 3331-
- MTH 4442 Abstract Algebra II (3)**
Elementary theory of rings, polynomial rings, divisibility, unique factorization domains. Integral domains, ideals, factor rings, divisibility in integral domains. Elementary theory of fields. Extension fields.
Prerequisite: MTH 4441.
- MTH 4460 Topology (3)**
An introduction to metric and topological spaces and associated topics, separation axioms, compactness, and connectedness.
Prerequisites: MTH 2227, 3318.
- MTH 4474 Internship in Mathematics Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454.
- MTH 4480 Study Abroad in Mathematics (1-3)**
Provides the opportunity for students to experience mathematics in the global community through cultural immersion in a study abroad program.
Prerequisites: 6 credit hours at the 4000-level, permission of instructor, and successful completion of TROY Study Abroad Program requirements and fees.
- MTH 4481 Methods and Materials for the Secondary Teacher (3)**
A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of mathematics materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.
- MTH 4490 Senior Seminar (1 to 3 credit hours)**
Individualized study of a topic in mathematics culminating in a written and oral presentation.
Prerequisites: MTH 3318 and senior status.
- MTH 4491-92 Guided Independent Research (1 to 3 credit hours)**
Additional information is indexed under Independent Study and Research.
- MTH 4493-94 Guided Independent Study (1 to 3 credit hours)**
Additional information is indexed under Independent Study and Research.
- MTH 4498 Math Education Capstone (3)**
This course is designed to culminate the student's experience in the Math Education program. Students will complete a comprehensive exam and a capstone project that integrates educational research, curriculum design, math content application, and assessment. Based on a literature evaluation of a specific concept or problem in math teaching, the student will develop a new curricular unit, or redesign an existing one, to be implemented in a college, high school, or middle school math course. This unit must apply math content from their degree program courses and the student must assess the impact of the new/revised unit on student learning.
Prerequisite: Junior Status
- MTH 4499 Internship in Mathematics/Statistics (1-3)**
A supervised experience in planning, staging, and evaluating a formal practicum in a related field.
Prerequisites: 6 credit hours at the 4000-level or MTH 4451, or permission of the department chair.

MUSIC INDUSTRY COURSES (MUI)

- MUI 1101 American Popular Music Ensemble (1)**
An examination and application of music and music performance focused in the American popular music genres. Students will experience and perform popular music styles/genres including rock, R&B, mainstream pop, country, and hip hop among others. In addition, students will experience studio production process and procedure in the recording of music tracks for release through a record label.
Prerequisite: By audition.
- MUI 2201 Improvisation (1)**
An introduction to basic improvisation through guided performance practices. Chord symbols and terminology will be used to describe various chords and scales. The "musical vocabulary" presented in this course is designed to provide a strong foundation that can be applied to multiple styles of American popular music. Students who complete the course will have the necessary tools to improvise at a basic harmonic level.
Prerequisite: MUS 1103.
- MUI 2230 Survey of Music Industry (3)**
An introduction to practices and inter-relationships of the music industry, such as retail, recording,

- distribution, legal aspects, publishing media and employment.
- MUI 3305 Music Technologies (3)**
Study of the computer-based applications as currently used in the music industry for audio production including MIDI sequencing, multi-track recording, audio editing and music notation.
Prerequisite: MUI 2230.
- MUI 3310 Audio Principles and Techniques I (3)**
A basic course to develop the understanding and skills to produce audio recordings. Listening skills will be emphasized along with editing, recording, and basic sound design for film/video.
Prerequisite: MUI 2230, MUI 3305.
- MUI 3315 Song Writing (2)**
Study of basic skills and techniques of songwriting including lyric writing, melodic construction, and harmonic progression.
Prerequisites: MUI 2230, MUI 3305, MUS 1103.
- MUI 3325 Recording Studio I (2)**
An examination of the art of studio recording. The mixing console, microphones, signal processing, and digital recording systems will be studied and experienced.
Prerequisite: MUI 3360.
- MUI 3326 Recording Studio II (2)**
In-depth study of audio recording in the studio environment. Remote and studio recording techniques, studio process/protocol, and post production will be studied and experienced. Students will prepare a recording project portfolio.
Prerequisite: MUI 3325.
- MUI 3340 Live Sound Reinforcement (2)**
An overview of contemporary live sound reinforcement techniques. Students will experience various aspects of working in the live sound environment including: audio component types, venue/acoustical considerations, signal processing/application, specific technical considerations, microphone techniques, mixing techniques, and sound crew protocol.
Prerequisite: MUI 3360.
- MUI 3345 Audio for Producers (2)**
An overview of audio production in the recording studio environment, including industry-standard process and procedures. In addition, the roles of the producer, engineer, and musician are explored through a series of recording sessions while working in digital audio environments. A final recording project will be completed as a part of the student's portfolio.
Prerequisite: MUI 3310.
- MUI 3346 Studio Repair & Maintenance (2)**
Course includes basic electric instrument adjustment, maintenance, and repair, common industry standards and guidelines, practical evaluation, and hands-on adjustment and repair.
Prerequisite: MUI 3326, MUI 3340.
- MUI 3360 Audio Principles and Techniques II (2)**
This course is an in-depth examination of audio recording. The curriculum will cover remote and studio recording techniques. The related areas of sound reinforcement and post-production will be covered at length. Students will apply advanced microphone techniques, utilize digital editing and plug-ins, and prepare a recording project portfolio.
Prerequisite: MUI 3310.
- MUI 4410 Arts Management/Concert Production(2)**
A study of artist management and concert production including show development, venue management, marketing, booking and touring. A music concert production will be developed, staged
- and presented in a variety of performance environments.
Prerequisite: MUI 2230, MUI 3305.
- MUI 4420 Film Scoring (2)**
Examination of the process and preparation of digital music for film, digital video and animation.
Prerequisite: MUI 3310.
- MUI 4430 Marketing of Recorded Music (2)**
An in-depth study of the process of studio production, manufacturing, promotion, marketing and distribution of contemporary recordings.
Prerequisites: MUI 2230, MUI 3305.
- MUI 4435 Music Merchandising (2)**
Examination of the production, marketing, merchandising and distribution of musical products in the current music marketplace.
Prerequisites: MUI 2230, MUI 3305.
- MUI 4448 Audio Mixing and Mastering (2)**
An exploration and application of audio mixing and mastering techniques used in contemporary audio production.
Prerequisite: MUI 3325.
- MUI 4460 Senior Practicum (3)**
Career preparation in student's area of emphasis including a culmination project/presentation, internship placement, and portfolio development.
Prerequisite: approval of adviser/ coordinator.
- MUI 4480 Seminar in Music Industry (3)**
An advanced course focused on the development of the professional skills portfolio. The student will develop a project to be added to their portfolio upon completion.
Prerequisite: MUI 4460.
- MUI 4499 Music Industry Internship (9)**
Students will be assigned an internship position in the music industry. The intern will be supervised by a music industry faculty member.
Prerequisite: MUS 4460.

MUSIC COURSES (MUS)

- MUS 1102 Music Theory I (3)**
Study of music fundamentals including rhythm and meter, note names, intervals, major and minor scales, key signatures, triads, seventh chords, cadences, introduction to Roman Numeral and Macro analysis, non-chord tones and suspensions, and beginning part-writing.
Co-requisites for music majors: MUS 1105, 1107.
- MUS 1103 Music Theory II (3)**
Study of diatonic and chromatic harmony including secondary dominant functioning chords, borrowed chords, Neapolitan chord, and augmented sixth chords, modulation, advanced part-writing, and intermediate-level harmonic analysis.
Prerequisite: MUS 1102.
Co-requisites for music majors: MUS 1106, 1108.
- MUS 1105 Class Piano I (1)**
Introduction to basic keyboard musicianship and music reading skills. Focuses on beginning improvisation techniques, harmonization and beginning chorale playing.
- MUS 1106 Class Piano II (1)**
Development of intermediate-level keyboard skills including improvisational techniques, chorale playing, sight reading and transposition.
Prerequisite: MUS 1105.
- MUS 1107 Aural Skills I (1)**
Beginning sight-singing and rhythmic reading, melodic, harmonic and rhythmic dictation, and interval and chord quality identification.

- MUS 1108 Aural Skills II (1)**
Intermediate-level sight-singing and rhythmic reading, melodic, harmonic and rhythmic dictation, and interval and chord quality identification.
Prerequisite: MUS 1107.
- MUS 1110-4429 Private Instruction (1 credit hour per semester, 1 lesson per week)**
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|---------------------|-------------|
| 1110/2210/3310/4410 | Violin |
| 1111/2211/3311/4411 | Viola |
| 1112/2212/3312/4412 | Cello |
| 1113/2213/3313/4413 | String Bass |
| 1114/2214/3314/4414 | Piano |
| 1115/2215/3315/4415 | Organ |
| 1116/2216/3316/4416 | Voice |
| 1117/2217/3317/4417 | Clarinet |
| 1118/2218/3318/4418 | Oboe |
| 1119/2219/3319/4419 | Flute |
| 1120/2220/3320/4420 | Bassoon |
| 1121/2221/3321/4421 | Saxophone |
| 1122/2222/3322/4422 | Trumpet |
| 1123/2223/3323/4423 | Horn |
| 1124/2224/3324/4424 | Trombone |
| 1125/2225/3325/4425 | Euphonium |
| 1126/2226/3326/4426 | Tuba |
| 1127/2227/3327/4427 | Percussion |
| 1128/2228/3328/4428 | Guitar |
| 1129/2229/3329/4429 | Composition |
- 1000-level courses are for non-majors and music majors studying secondary instruments. Music majors will study two semesters each at the 2000, 3000, and 4000 levels. Approval for advancement will be given at jury examinations by faculty in each area (keyboard, voice, brass, woodwinds, percussion).*
- MUS 1131 Music Appreciation (3)**
Orientation, vocal and instrumental media, forms, historical development and guided listening.
Credit for this course does not apply toward any program in music.
- MUS 1140 World Music Workshop (2)**
A hands-on course that surveys traditional music from around the globe, with an emphasis on exploratory play.
- MUS 1145 Folk Music of the Americas (1)**
An ensemble that plays traditional music from many regions throughout the Americas. The group performs old time songs and folk tunes from the United States, as well as indigenous songs, folk songs and tunes from Central and South America, and syncretic music, exploring a broad variety of American cultural traditions.
- MUS 1146 Chinese Folk Ensemble (1)**
A traditional music group dedicated to promoting cultural exchange through playing a variety of traditional Chinese instruments and melodies from various regions around the country.
- MUS 1147 Celtic Ensemble (1)**
A traditional music group that performs tunes and songs of Irish, Scottish, Welsh, Galician, Breton, and Scandinavian origins. It has a varied instrumentation and an emphasis on learning melodies aurally.
- MUS 1149 Sangeet Ensemble (1)**
The ensemble will explore traditional and classical musics from the rich variety of cultures throughout India and the surrounding regions of Nepal, Pakistan, and Bangladesh through learning songs, melodies, rhythms and lore.
- MUS 1150 Guitar Ensemble (1)**
This course is designed to increase student knowledge of guitar ensemble and chamber music repertoire through performance, listening and concert attendance.
- MUS 1155 Opera Workshop (1)**
This course is a performance workshop, uniquely tailored to showcase enrolled students. Students will be assigned a scene or a role, be expected to learn music independently, coach music and presentation during class hours and perform on designated concert date(s). This course is open to all students interested in classical singing and performance. Students will audition for roles and be coached with positive reinforcement to be part of a successful performing ensemble representing the School of Music.
- MUS 1181 Band (1) Fall; (1) Spring**
Marching Band (fall) and concert band (spring). Open to all students by permission of director.
- MUS 1183 Collegiate Singers (1-3)**
Choral group devoted to performance of choral masterworks. *Note: open to all students with permission of instructor.*
- MUS 2202 Music Theory III (3)**
Study and analysis of structures and procedures of the Common Practice period, beginning with phrase and period structures and continuing through binary, ternary, sonata-allegro, sonata-rondo, fugue, variation, and through-composed forms.
Prerequisite: MUS 1103.
Co-requisite for music majors: MUS 2207.
- MUS 2203 Music Theory IV (3)**
Study and analysis of music from the Late Romantic period through 21st Century compositional and analytical practices.
Prerequisite: MUS 2202.
- MUS 2207 Aural Skills III (1)**
Advanced sight-singing and rhythmic reading, melodic, harmonic and rhythmic dictation including chromatic harmonies, and interval and chord quality identification.
Prerequisite: MUS 1108.
- MUS 2235 Listening to Jazz (3)**
An exploration of jazz in American culture.
- MUS 2240 World Music Cultures (3)**
A survey of diverse musical traditions from around the globe. Musical cultures are approached anthropologically, and each culture will be examined to understand how music is entwined with human experience.
- MUS 2245 Classic Vinyl: Rock and Roll Revisited (3)**
An exploration of Rock and Roll in American culture.
- MUS 2250 Survey of Western Music History I (3)**
This course traces the development of Western music from the ancient and medieval worlds through the Renaissance and baroque periods.
- MUS 2251 Survey of Western Music History II (3)**
This course traces the development of Western music from the 18th century through the classical, romantic and contemporary periods.
- MUS 3305 Music Technologies (3)**
Study of the applications of the microcomputer to music teaching and to the management, planning, and record-keeping tasks of the music educator.
- MUS 3306 Conducting (3)**
Basic conducting techniques for instrumental and choral groups. Includes score study, rehearsal techniques and interpretation of various styles.
Prerequisite: MUS 1103.

- MUS 3335 Choral Leadership (1)**
Intensive score study, performance practices, and conducting practice of standard repertoire.
- MUS 3340 Diction for Singers (1)**
Focuses on student understanding and application of singing of the English, Italian, Latin, German and French languages through use of the International Phonetic Alphabet and appropriate art song repertoire.
Prerequisites: ENG 1102, MUS 2216.
- MUS 3341 Vocal Pedagogy (1)**
A study of vocal teaching methods with an emphasis on application for private voice and choral teachers. This course also includes a review of vocal/choral pedagogical literature.
Prerequisite: MUS 2216.
- MUS 3346 Educational Psychology & Classroom Assessment in Fine Arts (3)**
This course provides a broad foundation in aspects of assessment and educational psychology.
- MUS 3351 Class Brass (1)**
Group instruction in techniques of playing and teaching brass instruments.
- MUS 3352 Class Woodwinds (1)**
Introduction to each of the principal woodwind instruments, emphasizing teaching techniques suitable for band classes.
- MUS 3353 Class Percussion (1)**
Group instruction in playing and teaching the principal pitched and non-pitched percussion instruments.
- MUS 3354 Class Strings (1)**
Group instruction in techniques of playing and teaching stringed instruments.
- MUS 3356 Class Voice (1)**
Introduction to the use of the singing voice for non-voice principals in music education.
- MUS 3360 Wind and Percussion Methods (1)**
Students will demonstrate theoretical, pedagogical and performance knowledge of/on selected wind/ percussion instruments and awareness of instrument materials and rehearsal techniques, and will review the role of the instrumental music educator in music education.
- MUS 3361 Integrating Music into the Curriculum (3)**
Basic skills and methods of presentation and evaluation for music in grades P-6. Role-playing experiences are used to demonstrate appropriate materials, student involvement and motivational techniques.
Prerequisite: MUS 1131.
- MUS 3365 Class Composition (1)**
Creative musical writing, criticism, and study of compositional techniques.
Prerequisite: permission of instructor.
- MUS 3380 Travel Study in Music (1-3)**
Supervised study of music through travel abroad or within the United States. May be repeated for credit.
Prerequisite: permission of instructor.
- MUS 3382 Choral Techniques (3)**
Organizational and instructional strategies for teaching music through performance in choir. Includes a field component.
Prerequisite: MUS 1103 and junior standing.
- MUS 3384 Band Techniques (3)**
Organizational and instrumental strategies for teaching music through performance in band. Includes a field experience component.
Prerequisite: MUS 1103 and junior standing.
- MUS 3385 Symphony Band (1)**
Select concert organization for performance of advanced literature for band and wind ensemble.
Prerequisite: Audition.
- MUS 3386 Jazz Ensembles (1)**
Select ensemble for performance in a wide variety of jazz styles.
Prerequisite: Audition.
- MUS 3387 Concert Chorale (1)**
This mixed chamber choir performs challenging classical, traditional, and contemporary choral repertoire.
Prerequisite: Audition.
- MUS 4400/01/02 Selected Topics (1-3 per course)**
Detailed investigation of a specialized topic not covered in regularly offered courses, or an advanced section for intensive study.
- MUS 4403 Classroom Management for the Music Educator (3)**
The purpose of this course is to establish a foundation of content and application relative to classroom management for the music educator (P-12). Provides opportunities for analysis and application of behavioral management techniques in general music and performance-based pedagogical settings.
- MUS 4430 Flute Choir (1)**
This course is designed to increase student knowledge of flute choir repertoire through performance, listening, and discussion.
- MUS 4431 Trumpet Ensemble (1)**
Ensemble course open to all students.
- MUS 4432 Percussion Ensemble (1)**
Ensemble course open to all students.
- MUS 4433 Clarinet Choir (1)**
Ensemble course open to all students.
- MUS 4435 Campus Concert Band (1)**
Ensemble course open to all students.
- MUS 4436 Vocal Jazz Ensemble (1)**
This ensemble is designed to provide a quality performance experience for students of all majors and levels, utilizing excellent ensemble vocal jazz repertoire.
Prerequisite: Audition.
- MUS 4440 Marching Band Techniques (3)**
This course is designed to provide students with tools and techniques to successfully administer a high school marching band program, select and rehearse music, write and rehearse drill, and examine various marching techniques. Also included are intensive work with the Pyware Drill Design software and experiences with writing drill and creating working frameworks for marching bands.
- MUS 4460 Music for the Diverse Learner (3)**
Theoretical and practical exploration of the use of music to teach various populations of exceptional learners. Hands-on experience provided with exceptional populations and designing musical activities for each.
Prerequisite: sophomore standing.
- MUS 4461 Orchestration and Arranging (2)**
Ranges, transpositions and other characteristics of standard instruments and voices. Arranging/ composition projects.
Prerequisite: MUS 2202.
- MUS 4470 Instrument Repair (2)**
Course includes basic musical instrument adjustment, maintenance and repair, common industry standards and guidelines, practical evaluation and hands-on adjustment and repair.

- MUS 4471 Music for ECE and Elementary School (3-4)**
Materials and planning techniques for music in grades P-6. Singing, listening, movement, instrument playing and creative activities will be explored. Multicultural elements, observation, teaching experiences, and practical application of ideas will be included.
Prerequisites: MUS 1103 and junior standing.
- MUS 4472 Internship in Music Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: IED 4454.
- MUS 4481 Methods and Materials for the Secondary Music Teacher (3-4)**
Teaching methods, selection, organization and use of music materials in grades 6-12. Observation and teaching experiences will be included.
Prerequisites: MUS 4471 and admission to TEP.
- MUS 4491-92 Guided Independent Research (1 to 3 credit hours per course)**
Additional information may be found under Independent Study and Research.
- MUS 4493-94 Guided Independent Study (1 to 3 credit hours per course)**
Additional information may be found under Independent Study and Research.
- MUS 4499 Senior Recital (1)**
Required for all music majors.
Prerequisite: Approval Jury.

NURSING COURSES (NSG)

(ASN Program)

- NSG 1130 Basic Nursing Concepts (2)**
Introduces the nursing process and the concept of evidence-based practice as a basis for making clinical nursing judgments. Incorporates theoretical knowledge from nursing, scientific, environmental and humanistic disciplines. Introduces the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical-legal, cultural diversity, nursing history, and the program's philosophy of nursing. Requires basic understanding of medical terminology. Focuses on the role of the professional nurse in providing care to diverse patient populations.
Prerequisites: Admission to the ASN Program, ENG 1101, MTH 1112 or MTH 1110, PSY 2200.
Prerequisites or Co-requisites: BIO 3347/L347.
- NSG 1131 Basic Nursing Concepts Practicum (2-4)**
Introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along with skills needed in therapeutic interventions. Focuses on the role of the professional nurse in applying basic nursing skills to diverse patient populations with common health alterations.
Prerequisites: admission to the ASN Program, ENG 1101, MTH 1112 or MTH 1110, PSY 2200, BIO 3347/L347.
Prerequisites or Co-requisites: NSG 1130, NSG 1135.
- NSG 1135 Health Assessment Practicum (1-2)**
Focuses on applying knowledge and skills required to perform health assessments on diverse patient populations. Utilizes an evidence-based systemic approach to collect data in the assessment phase of the nursing process.
Prerequisites: Admission to the ASN Program, ENG 1101, BIO 3347/L347, PSY 2200, MTH 1112 or MTH 1110.
- NSG 1140 Foundations of Adult Health Nursing (3)**
Builds upon knowledge from previous nursing courses and other scientific disciplines to explore patient-centered care for adults with actual or potential health deviations. Focuses upon an evidence-based approach to the nursing process within a culture of quality and safety. Emphasizes the role of the professional nurse as educator, collaborator and change agent within the interprofessional health team.
Prerequisites: NSG 1130, 1131, 1135, 1151, KHP 2211 OR NSG 2213, BIO 3348/L348, PSY 2210, and TROY 1101.
- NSG 1141 Foundations of Adult Health Nursing Practicum (3-6)**
Utilizes an evidence-based approach in the application of the nursing process, emphasizing clinical decisions that are safe, ethical, patient-centered and collaborative, to assist a diverse population of adults with common health alterations.
Co-or Prerequisite: NSG 1140.
Prerequisites: NSG 1130, 1131, 1135, 1151, KHP 2211 or NSG 2213, BIO 3348/L348, PSY 2210, TROY 1101.
- NSG 1151 Hospital Measurements (1)**
An introduction to using mathematical computations in health-related situations. Focuses on mathematics computations as applied in selected healthcare settings. Different systems of measurement will be a priority. Includes an exam on computation of dosages and solutions, requiring completion with 90% accuracy.
Prerequisites: admission to the ASN Program, ENG 1101, MTH 1112 or MTH 1110, PSY 2200, BIO 3347/L347.
- NSG 2202 Pharmacology (2)**
Focuses on specific classification of drugs, pharmacokinetics, pharmacodynamics, clinical usage, methods of administration, dosages, side effects, contraindications, reactions, and related nursing implications.
Prerequisites: NSG 1130, NSG 1131, NSG 1135, NSG 1151.
- NSG 2213 Nutrition (2)**
An evidence-based study of macro and micronutrients as they impact health promotion and disease prevention of diverse individuals across the lifespan. Focus is placed on basic nutrition concepts as they relate to body systems, medical nutrition therapies, drug interactions, food safety, and nutrition assessment.
- NSG 2255 Maternal-Infant Nursing (2)**
Focuses on the nursing process and evidence-based practice as a basis for in assisting the family during childbearing experiences. Applies theoretical knowledge from nursing, scientific, environmental and humanistic disciplines.
Prerequisites: NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372.
- NSG 2256 Maternal-Infant Nursing Practicum (2-4)**
Focuses on the role of the professional nurse in providing high quality nursing care to childbearing individuals and families. Utilizes antepartal, intrapartal, postpartal, and neonatal experiences.
Pre or Co-requisite: NSG 2255.

- Prerequisites:* NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372. **NSG 2283**
- NSG 2265 Nursing of Children (2)**
Focuses on the use of the nursing process and evidence-based practice as a basis for assisting the family during childrearing experiences. Applies theoretical knowledge from nursing, scientific, environmental and humanistic disciplines.
Prerequisites: NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372.
- NSG 2266 Nursing of Children Practicum (2-4)**
Focuses on the role of the professional nurse in providing high quality nursing care to children and their families. Concepts of growth and development are applied in the care of children with altered health states including multiple disabilities.
Pre or Co-requisite: NSG 2265.
Prerequisites: NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372.
- NSG 2271 Psychosocial Nursing Concepts (2)**
Focuses on the role of the professional nurse utilizing evidence-based practice to promote the adaptation of diverse individuals and families experiencing bio-psychosocial stressors.
Prerequisites: NSG 1130, 1131, 1135, 1151, BIO 3348/L348, PSY 2210, TROY 1101, KHP 2211 or NSG 2213.
- NSG 2272 Psychosocial Nursing Practicum (2-4)**
Focuses on the role of the professional nurse in the application of evidence-based nursing process in the care of diverse individuals and families experiencing bio-psychosocial stressors.
Pre or Co-requisite: NSG 2271.
Prerequisites: NSG 1130, NSG 1131, 1135, 1151, 2204, 2213, BIO 3348/L348, PSY 2210, TROY 1101, KHP 2211.
- NSG 2280 Advanced Nursing Concepts (4)**
Provides advanced knowledge for care of individuals and families in complex or life threatening situations. Focuses on the leadership role of the professional nurse using evidence-based practice while providing safe, high-quality, holistic, patient-centered care for diverse patient populations in complex or life-threatening situations.
Prerequisites: NSG 2202, 2255, 2256, 2265, 2266, 2282, 2283.
- NSG 2281 Advanced Nursing Practicum (6-12)**
Provides opportunity to demonstrate the role of professional nursing using judgment in practice, substantiated by evidence to assess and provide high quality care for individuals and families with complex multi-system stressors. Emphasizes health promotion, prevention, education and evidenced-based intervention in complex and life-threatening situations. Facilitates transition into the professional nursing role by examining legal, ethical, political, economic, and socio-cultural issues in nursing. Provides opportunity to apply leadership knowledge, refine nursing skills and develop greater understanding in a selected clinical area under the guidance of an approved professional nurse.
Pre or Co-requisite: NSG 2280.
Prerequisites: NSG 2202, 2255, 2256, 2265, 2266, 2282, 2283.
- NSG 2282 Adult Health Nursing II (2)**
Continues to explore patient-centered care for adults with acute health alterations. Focuses on an evidence-based approach to the nursing process within a culture of quality and safety. Emphasizes the role of the professional nurse for adults in acute and long-term settings. Applies theoretical knowledge from nursing, scientific, environmental and humanistic disciplines.
Prerequisites: NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372.
- Adult Health Nursing II Practicum (2-4)**
Focuses on the role of the professional nurse in providing high quality nursing care to adults. Utilizes an evidence-based approach in the continued application of the nursing process, emphasizing clinical decisions that are safe, ethical, patient-centered and collaborative to assist a diverse population of adults with acute health alterations.
Pre or Co-requisite: NSG 2282.
Prerequisites: NSG 1140, 1141, 2202, 2271, 2272, BIO 3372/L372.
- (BSN Program)**
[Course credit hours/contact hours (if different) per week are noted in parentheses]
- NSG 1101 Health Concepts (1)**
Provides opportunity for exploration of individual health values, beliefs, and behaviors. Examines impact of exercise, nutrition, and stress on health. Explores beliefs of time management, relaxation, and play in promoting and maintaining health. Open to all majors.
- NSG 1105 Medical Terminology (1)**
Develops the use of Latin and Greek prefixes, root words, and suffixes to understand medical terminology. Open to all majors.
- NSG 1150 First Responder (1-2)**
Provides the learner with cognitive and psychomotor skills to act in emergency situations. Topics include CPR, patient head-to-toe evaluation, bleeding and shock, internal and external body injuries, splinting, poisons, bites, burns, and drownings. May audit for recertification. Open to all majors.
- NSG 1160 Introduction to Technology in Nursing Education (1)**
Provides a foundation for using computer technology in nursing education. Addresses digital communication, resources, and research used in learning. Includes communication through electronic mail and course discussion using the World Wide Web as an information tool, online scholarly research, and digital presentations. Open to all majors.
- NSG 1170 The Art of Caring and Nursing Practice (3)**
Introduces students to the art of nursing and the holistic care of individuals and populations in a globally diverse society. Open to all majors.
- NSG 2204 Nutrition (2)**
A study of macro and micronutrients, their metabolism in the body, and their influence on health states of individuals from diverse cultural, ethnic and religious groups of all ages. Examines nutritional research and health policy. Compares nutritional adequacy to evidence-based national standards. Open to all majors.
- NSG 2205 Human Growth and Development (3)**
Examines developmental theories and internal and external dimensions of growth and development. Emphasizes tasks, stressors, common health alterations, and anticipatory guidance specific to developmental stages throughout the life span. Open to all majors.
- NSG 2211 Human Nutrition (3)**
Explores the relationship between nutrition and health. Emphasizes the roles of nutrients, their utilization in the human system and their contributions to the health of individuals of all ages. Includes dietary patterns of various cultural, ethnic and religious groups, nutritional assessments, and food safety. Open to all majors.
- NSG 2220 Health Science Informatics (3)**
Provides a foundation for the study of information and its utilization through computer technology; encompasses access, dissemination, and

- management of health science information and Internet communication. General topics include communication through electronic mail, using the World Wide Web as an information tool, online scholarly research, and digital presentations and publishing. Course focus is the application of technology skills in health science fields. Open to all majors.
Prerequisite: sophomore standing.
- NSG 2230 Advanced Medical Terminology (3)**
Focuses on health and disease medical terms and building of knowledge of medical vocabulary with an emphasis on prefixes, suffixes, roots, and combining vowels. Anatomical, physiological, and pathological terminology are covered. Includes terminology related to the body systems. Open to all majors.
- NSG 2240 Spanish for Healthcare Providers (2)**
Elementary-level instruction in Spanish language and culture, all oriented to the practice of medicine with Spanish-speaking patients. No prior knowledge of Spanish is required. Students develop basic listening, speaking, reading and writing skills to successfully perform linguistic tasks allowing them to communicate in everyday situations (e.g. greeting, narrating present and past events, describing, ordering, comparing and contrasting).
Prerequisite: permission of instructor.
- NSG 2285 Perspectives of Aging (3)**
Presents interrelationships among physical, psychosocial, cultural, and spiritual components related to the older adult. Identifies senescence and alterations associated with the aging process in response to internal and external environmental dimensions. Open to all majors.
- NSG 2290 Nursing in the Global Community (1)**
Explores issues, philosophies and cultural differences in nursing in the global community. Compares nursing and healthcare in the United States to that of other nations.
Prerequisite: sophomore standing or permission of instructor.
- NSG 2291 Nursing Study Abroad (1-3)**
Provides the opportunity for students to experience nursing in the global community through a cultural immersion in a study abroad program. Focuses on the comparison of nursing in the United States to nursing in the international community.
- NSG 3300 Dosage Calculations (2)**
Uses mathematical principles, symbols, conversions and computations for accurate calculation of dosages for safe and effective medication administration for patients of all ages. Explores current evidence and health care policy related to safe and effective medication administration.
Prerequisite: admission to BSN program.
- NSG 3301 Pharmacology (3)**
Focuses on key pharmacological principles and the role of the nurse in management of drug therapy, including appropriate evidence-based patient teaching, counseling, and safety and quality controls. Presents drug classifications and related nursing implications for individuals of all ages.
Prerequisite: NSG 3300, NSG 3306, NSG 3309/3310, NSG 3313/3314, NSG 3315
- NSG 3306 Perspectives of Professional Nursing (1)**
Explores the roles of the baccalaureate degree nurse. Presents the principles, standards, and values implicit in the profession of nursing. Introduces the theories used in the definition of concepts of humanity, environment, health, and nursing. Introduces the development of key elements used in professional nursing practice: caring, evidence-based clinical decisions, communication, collaboration, cultural humility, ethical competence,
- research, and information technology. Explores the influence of internal and external dimensions on professional nursing practice.
Prerequisite: admission to the BSN Program.
- NSG 3309 Health Assessment (2)**
Focuses on the assessment phase of the nursing process as a means of collecting data for use in making clinical decisions for the promotion of safe, quality care. Emphasizes acquisition of knowledge and skills required to perform health assessments focusing on physical, psychosocial, cultural, and spiritual components of individuals at various ages and communication of findings.
Prerequisites: BIO 3347/L347, 3348/L348. Co-requisite: NSG 3310.
- NSG 3310 Health Assessment Practicum (1-2)**
Provides opportunities for students to practice health assessment skills required for culturally diverse individuals of all ages. Includes analysis and communication of findings for the promotion of safe, quality care. Requires demonstration of effective communication and performance of health assessment skills consistent with best practices.
Prerequisites: BIO 3347/L347, 3348/L348. Co-requisite: NSG 3309.
- NSG 3313 Nursing Concepts (3)**
Explores common health alterations for individuals of all ages in response to internal and external environmental dimensions. Examines the physical, psychosocial, cultural, and spiritual components influencing health states. Introduces the concept of illness as an alteration in health. Presents fundamental skills used in the implementation of therapeutic nursing interventions. Introduces evidence-based clinical decisions in the application of the nursing process for health promotion and clinical prevention.
Prerequisite: admission to BSN Program, NSG 3309/3310, 3315. Co-requisite: NSG 3314.
- NSG 3314 Nursing Concepts Practicum (3-6)**
Provides clinical learning opportunities for students to develop basic nursing knowledge and skills for the care of individuals of all ages who require assistance in meeting basic health needs and adapting to common health alterations. Uses key elements in professional nursing practice in the application of the nursing process as a systematic approach to clinical prevention, health promotion and maintenance, and illness and restorative care. Requires validation of competencies related to safe performance of basic nursing skills.
Prerequisite: admission to BSN Program, NSG 3309/3310, 3315. Co-requisite: NSG 3313.
- NSG 3315 Pathophysiology (3)**
Explores the relationship between normal and altered physiology in human systems. Examines physiological adaptive responses to internal and external dimensions, including genetics, ethnicity, environment and age. Emphasizes pathophysiologic responses to altered states of health and disease on structures and functions of body cells, organs and systems. Open to all majors.
Prerequisites: BIO 3347/L347, 3348/L348.
- NSG 3319 Informatics in Nursing (3)**
Focuses on development of knowledge and skills in information management and patient care technology, including data gathering, technological supports for therapeutic nursing interventions, and clinical decision-support systems. Explores use of technology to gather evidence for support of best practices for the delivery of safe and quality nursing care. Presents software applications used in nursing informatics.

- Prerequisites: NSG 3325/3326, 3334/3335 or admission to the RN Mobility Program*
- NSG 3323 Maternal-Infant Health Nursing (3)**
Explores both normal childbearing families and childbearing families with health alterations in response to internal and external environmental dimensions. Examines the interrelationships among the physical, psychosocial, cultural, and spiritual components of the childbearing experience. Emphasizes evidence-based clinical decisions for the utilization of therapeutic nursing interventions, communication, and collaboration in a caring environment for the promotion of optimal health states of childbearing families.
Prerequisites: NSG 3301, 3325/3326, 3334/3335. Co-requisite: NSG 3324.
- NSG 3324 Maternal-Infant Health Nursing Practicum (2-4)**
Provides clinical learning opportunities for students to provide nursing care for childbearing families during the antepartal, intrapartal, postpartal, and neonatal periods. Emphasizes the use of clinical reasoning in the application of the nursing process in facilitating human adaptive responses to childbearing in the provision of safe, quality nursing care.
Prerequisites: NSG 3301, 3325/3326, 3334/3335. Co-requisite: NSG 3323.
- NSG 3325 Adult Health Nursing I (3)**
Continues to explore the concept of illness as an alteration in health states. Presents principles of safe, effective medication and intravenous therapy administration. Explore health alterations in adults in response to internal and external environmental dimensions, focusing on surgery, gastrointestinal, endocrine, integumentary, immune, and musculoskeletal systems. Examines selected theories for interrelationships among physical, psychosocial, cultural, and spiritual components. Emphasizes evidence-based clinical decisions in a caring environment for the utilization of therapeutic interventions, communication, and collaboration for promotion of optimal health states in adults.
Prerequisites: NSG 3300, 3306, 3309/3310, 3313/3314, 3315. Co-requisite: NSG 3326.
- NSG 3326 Adult Health Nursing I Practicum (3-6)**
Provides clinical learning opportunities for students to refine basic clinical skills and provide nursing care of adults with health alterations. Emphasizes clinical reasoning in the application of the nursing process in facilitating human adaptive responses to health alterations in the adult. Validates competencies related to medication and intravenous therapy administration.
Prerequisites: NSG 3300, 3306, 3309/3310, 3313/3314, 3315. Prerequisite or co-requisite: NSG 3301. Co-requisite: NSG 3325.
- NSG 3334 Psychiatric-Mental Health Nursing (3)**
Explores mental health alterations of all ages in response to internal and external environmental dimensions. Examines selected theories of mental health and illness for interrelationships among physical, psychosocial, cultural, and spiritual components. Emphasizes evidence-based clinical decision-making in the utilization of therapeutic nursing interventions, communication and collaboration for the promotion of optimal states of mental health.
Prerequisites: NSG 3300, 3306, 3309/3310, 3313/3314, 3315. Co-requisite: NSG 3335.
- NSG 3335 Psychiatric-Mental Health Nursing Practicum (2-4)**
Provides clinical learning opportunities for students to provide illness and restorative care for individuals experiencing alterations in mental
- health states. Emphasizes evidence-based clinical reasoning in the application of the nursing process in facilitating human adaptive responses to mental health alterations
Prerequisites: NSG 3300, 3306, 3309/3310, 3313/3314, 3315. Co-requisite: NSG 3334.
- NSG 3336 Adult Health Nursing II (3)**
Continues to explore health alterations for adults in response to internal and external environmental dimensions, focusing on cardiovascular, respiratory, nervous, sensory, renal, reproductive, and multi-system trauma and shock. Examines selected theories for interrelationships among physical, psychosocial, cultural, and spiritual components. Emphasizes evidence-based clinical decisions in a caring environment for the utilization of therapeutic interventions, communication, and collaboration for promotion of optimal health states in adults.
Prerequisites: NSG 3301, 3325/3326, 3334/3335. Co-requisite: NSG 3337.
- NSG 3337 Adult Health Nursing II Practicum (2-4)**
Provides clinical learning opportunities for students to further refine clinical skills and provide nursing care for adults with alterations in health states. Emphasizes clinical reasoning in the application of the nursing process in facilitating human adaptive responses to health alterations in the adult in the provision of safe, quality nursing care.
Prerequisites: NSG 3301, 3325/3326, 3334/3335. Co-requisite: NSG 3336.
- NSG 3340 Ethics in Nursing (3)**
A discussion of traditional ethical theories, principles and meta-ethical concerns will provide the necessary background required to explore a variety of controversial issues such as euthanasia, abortion, and the new reproductive technologies. Objective and critical reflection about the issues will be developed into active discussions by the students.
Prerequisite: Permission of instructor.
- NSG 3345 Physical Examination for Allied Health Professionals (2)**
Focuses on physical examination of individuals by allied healthcare professionals as a means of collecting data for use in the making of clinical decisions. Emphasizes acquisition of knowledge and skills required to perform health assessments focusing on physical, psychosocial, and cultural components of individuals at various ages and communication of findings.
Prerequisites: BIO 3347, BIO L347, BIO 3348, BIO L348. Co-requisites: NSG 3346.
- NSG 3346 Physical Examination for Allied Health Professional Practicum (1)**
Provides opportunities for allied health professional students to practice physical examination skills required for culturally diverse individuals of all ages. Includes analysis and communication of findings for the promotion of safe, quality care. Requires demonstration of effective communication and performance of physical examination skills consistent with best practice.
Prerequisites: BIO 3347, BIO L347, BIO 3348, BIO L348. Co-requisites: NSG 3345
- NSG 3350 Case Management in Healthcare (3)**
Provides theoretical foundation and practical information about case management in healthcare. Introduces the roles of the nursing case manager in a changing healthcare environment.
Prerequisite: NSG 3309/3310 or NSG 3345/3346.
- NSG 3370 Professional Nursing (2)**
Explores current issues, trends, principles, values, and standards impacting the profession of nursing. Examines theories related to the leadership/

- management role of the professional nurse. Discusses evidence-based practice, information technology, quality improvement, patient safety and other current nursing practice topics related to meeting the emerging health needs in changing diverse global society in response to internal and external environmental dimensions.
Prerequisites: Admission to the RN Mobility Program.
- NSG 3380 Pathophysiology and the Human Response (3)**
Explores the relationship between normal and altered physiology in human systems. Examines physiological adaptive responses to internal and external dimensions, including genetics, ethnicity, environment and age. Emphasizes pathophysiologic responses to altered states of health and disease structures and functions of body cells, organs, and systems. Open to all majors.
Prerequisite: BIO 3347/L347, 3348/L348
- NSG 3390 Global Identity: Connecting Your International Experience to Your Future (3)**
Studying abroad is a transformative experience that has the power to challenge our thinking and our perspective on the world. This course aims to attract students across disciplines, to promote inter-professional development, and to prepare them to expand their understanding of their global identity and communicate their growth in intercultural competence toward their personal and professional development. Students make connections between their study abroad experience and the broader range of skills connected with this experience, to become a competitive member of a global workforce.
- NSG 4403 Child Health Nursing (3)**
Explores health alterations in children in response to internal and external environmental dimensions. Examines selected theories of child health for interrelationships among developmental, physical, psychosocial, cultural, and spiritual components. Emphasizes evidence-based clinical decisions, communication and collaboration in a caring environment. Presents the role of the nurse in the promotion of optimal health for children of all ages.
Prerequisites: NSG 3319, 3323, 3324, 3336, 3337. Co-requisite: NSG 4404.
- NSG 4404 Child Health Nursing Practicum (2-4)**
Provides clinical learning opportunities for students to integrate clinical prevention, health promotion and maintenance, and illness and restorative care for children experiencing alterations in health states. Emphasizes clinical reasoning in the application of the nursing process in facilitating human adaptive responses to health alterations in the child in the provision of safe, quality nursing care. Uses a variety of hospital and community settings.
Prerequisites: NSG 3319, 3323, 3324, 3336, 3337. Co-requisite: NSG 4403.
- NSG 4405 Public Health Nursing (3)**
Provides a theoretical and empirical foundation for public health nursing practice. Explores the environmental, global, cultural, political and financial dimensions of public health. Emphasizes the nurse's role in the delivery of public health nursing care in health promotion and clinical prevention health for individuals, families, communities and populations.
Prerequisites: NSG 4403/4404, 4413/4414, 4419 Co-requisite: NSG 4406.
- NSG 4406 Public Health Nursing Practicum (2-4)**
Provides clinical learning opportunities for students to engage in public health nursing practice. Explores use of advocacy and application of environmental, global, cultural, political, and financial dimensions of public health nursing practice in health promotion and clinical prevention for individuals, families, communities and populations. Emphasizes clinical reasoning in the application of the nursing process for promotion of optimal public health.
Prerequisites: NSG 4403/4404, 4413/4414, 4419 Co-requisite: NSG 4405.
- NSG 4407 Clinical Nutrition (1)**
A study of clinical nutrition therapy for support of adaptive responses to potential or actual major disease-specific health alterations. Presents best practices with consideration of physical, psychosocial, cultural and developmental components for clinical decisions in the design and implementation of therapeutic nursing interventions for health promotion and clinical prevention for individuals, families, communities, and population.
Prerequisites: NSG 4403/4404, 4413/4414.
- NSG 4410 Population Health Nursing (3)**
Provides a theoretical and empirical foundation for nurses to explore the environmental, global, cultural, political and financial dimensions of a specific population. Emphasizes the nurse's role in the delivery of population-focused care in health promotion, clinical prevention, and overall health for diverse communities.
Prerequisites: Admission to the RN Mobility Program. Co-requisite: NSG 4411.
- NSG 4411 Population Health Nursing Preceptorship (2-2)**
Provides clinical learning opportunities for students to engage in population-focused care. Explores use of advocacy and application of environmental, global, cultural, political, and financial dimensions of population-focused nursing practice in health promotion, clinical prevention, and overall population health. Emphasizes clinical reasoning in the application of the nursing process for promotion of optimal population health.
Prerequisites: Admission to the RN Mobility Program Co-requisite: NSG 4410.
- NSG 4413 Complex Nursing (3)**
Interprets complex, multi-system health alterations in response to internal and external environmental dimensions. Examines theories related to stress and crisis management. Emphasizes evidence-based clinical decisions in a caring environment, utilization of communication and collaboration, and the integration of information technology, research findings, ethical competence, and cultural humility in nursing practice for the promotion of optimal health in individuals with complex, multi-system health alterations.
Prerequisites: NSG 3323/3324, 3336/3337, 3319. Co-requisite: NSG 4414.
- NSG 4414 Complex Nursing Practicum (2-4)**
Provides clinical learning opportunities for students to provide nursing care for individuals and groups experiencing complex, multi-system health alterations in response to internal and external dimensions. Emphasizes clinical reasoning in the application of the nursing process in collaboration for promotion of optimal health states in response to complex, multi-system health alterations. Focuses on performance of complex care skills required for safe, quality nursing care.
Prerequisites: NSG 3323/3324, 3336/3337, 3319. Co-requisite: NSG 4413.
- NSG 4415 Nursing Leadership/Management (2)**
Provides the theoretical foundation for implementation of the leadership and management roles of the professional nurse within nursing and health care organizations. Evaluates effective models and strategies for organizational management. Emphasizes evidence-based decisions in the

	management of the nursing organization within a caring environment. <i>Prerequisites:</i> NSG 4403/4404, 4413/4414, 4419. <i>Co-requisite:</i> NSG 4421.	<i>Prerequisites:</i> Admission to RN Mobility Program; PSY 3301, QM 2241 OR STAT 2210.
NSG 4417	Professional Nursing Seminar (1) Provides analysis of internal and external dimensions of selected professional, legal, ethical, political, economic, and sociocultural issues affecting nursing. Discusses the transition from student into the professional nurse's role, professional role development, and preparation for licensure. Requires completion of a comprehensive exam per the BSN program policy. <i>Prerequisites:</i> NSG 4403/4404, 4413/4414, 4419. <i>Co-requisite:</i> NSG 4421.	NSG 4493-94 Guided Independent Study (1 to 3 credit hours) Additional information is indexed under Academic Regulations. <i>Prerequisite:</i> Permission of instructor. Also see index for "Independent Study and Research.."
<hr/> PHILOSOPHY COURSES (PHI) <hr/>		
NSG 4419	Research and Evidence in Nursing Practice (2) Explores the process for research and evaluation of best evidence in developing strategies for improvement of clinical outcomes. Examines the interrelationships among theory, practice, and research. Emphasizes the ethical and legal considerations in the conduct of research and appraisal of evidence. <i>Prerequisites:</i> NSG 3323/3324, 3336/3337, 3319.	PHI 2201 Introduction to Political Philosophy (3) Major Classical sources of political thought and the application of these sources to contemporary political issues.
NSG 4421	Professional Nursing Clinical Preceptorship (3-12) Facilitates transition into professional nursing practice. Provides opportunities for refinement of roles as a designer, manager, and coordinator of nursing care and provider of direct and indirect nursing care for individuals and families in a selected clinical area under the guidance of an approved preceptor. <i>Prerequisites:</i> NSG 4403/4404, 4413/4414, 4419. <i>Co-requisite:</i> NSG 4415, 4417.	PHI 2203 Introduction to Philosophy (3) Brief history of philosophical ideas and the basics of Aristotelian logic.
NSG 4430	Leadership and Management in Nursing (3) Presents application of the leadership and management theories to manage care of individuals, families, communities, or populations adapting to internal and external environmental dimensions in a variety of dynamic and complex healthcare settings. Emphasizes the leadership and management role of the baccalaureate nurse. Integrates evidence-based practice, quality improvement, patient safety, information technology and healthcare policy. <i>Prerequisites:</i> Admission to the RN Mobility Program <i>Co-requisite:</i> NSG 4431.	PHI 2204 Ethics and the Modern World (3) An introduction to basic ethics and to contemporary ethical issues.
NSG 4431	Leadership and Management in Nursing Preceptorship (2-2) Provides clinical learning opportunities for students to apply leadership and management theories in the management of individuals, families, communities or populations adapting to internal and external dimensions in a variety of healthcare settings. Emphasizes the leadership and management roles of the baccalaureate nurse. Integrates evidence-based practice, quality improvement, patient safety, information technology and healthcare policy. <i>Prerequisites:</i> Admission to the RN Mobility Program <i>Co-requisite:</i> NSG 4430.	PHI 2205 Introduction to Logic (3) An introduction to the basic concepts, principles, and methods of argument analysis and evaluation.
NSG 4440	Research and Evidence for the Practicing Registered Nurse (3) Designed for practicing registered nurses to develop knowledge and understanding in the research process, to become research consumers, and evaluate and integrate current evidence for best practice. Examines the interrelationships among theory, practice, and research. Emphasizes the ethical and legal considerations in the conduct of research and appraisal of evidence. Incorporates professional writing skills in the appraisal and dissemination of evidence.	PHI 2206 Philosophy of Art and Art of Life (3) This class will introduce students to the fundamental concepts of "Aesthetics," or the "Philosophy of Art," focusing on such issues as Realism, Expressionism, Formalism, and Post-Modern Art with reference to actual works of art, while also exploring the role of art and the aesthetic experience as enriching components of life.
		PHI 2210 Critical Thinking (3) Examines problem solving techniques; decision making; basic concepts of inductive and deductive reasoning. Promotes reasoning skills applicable to career- and real-life situations.
		PHI 2215 General Topics in Philosophy (3) An examination of a designed topic of special and/or current interest and importance generally not covered in regularly offered courses by the department. This course may be repeated once for credit.
		PHI 2280 Travel Study in Philosophy (1-3) Supervised investigation of relevant topics in philosophy through travel-study abroad or within the interior of United States. <i>Prerequisite:</i> Permission of instructor. Course may be repeated for credit with permission of instructor.
		PHI 3301 Western Philosophy (3) Survey of philosophical ideas from the ancient Greeks through the 20th century.
		PHI 3310 Applied Ethics (3) Advanced study of the ethical issues that arise in such intellectual endeavors as medicine, law, business, military science, engineering, etc.
		PHI 3320 Non-Western Philosophies (3) Introduces students to the philosophical traditions of the non-western world. Emphasis is on non-contemporary traditions of metaphysics, cosmology, ethics, philosophy of religion, social and political philosophy and logic.
		PHI 3322 Philosophy of Religion (3) Examines philosophical issues relating to religion, including arguments for and against God's existence, the problem of evil, the relation between divine foreknowledge and human freedom, the relation between religion and science, the problem of faith and reason, and personal immortality.
		PHI 3365 Bioethics in Historical Context (3) Examines moral problems in biomedical and scientific research, including ethical issues surrounding research involving human and animal

- PHI 3380 subjects, eugenics, the human genome project, cloning and stem cell research.
Travel Study in Philosophy (1-3)
 Supervised investigation of relevant topics in philosophy through travel-study abroad or within the interior of the United States.
Prerequisite: Permission of Instructor
May be repeated for credit with permission of instructor.
- PHI 4493-94 **Guided Independent Study (1-3)**
 Guided independent study of a designed topic of special interest.
Prerequisites: PHI 2203 or 2204 or permission of instructor.
- PHI 4495 **Selected Topics in Philosophy (3)**
 Advanced study of a designed topic of special interest.
Prerequisites: PHI 2203 or 2204 or permission of instructor.
- PHI 4499 **Internship in Philosophy (1-3)**
 Supervised work in an agency that can provide practical experience in the field of study.
Prerequisite: Senior standing, at least 2.5 GPA, 12 hours in upper-division courses in the field, and permission of supervising instructor, department chair, and/or dean. Course may be repeated for credit with permission of instructor.
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- PHYSICS COURSES (PHY)**
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- PHY 2252 **General Physics I (3)**
 An introduction to the laws of mechanics and thermodynamics.
Prerequisite: MTH 1114.
Co-requisite: PHY L252.
- PHY L252 **General Physics I Lab (1)**
 Laboratory work emphasizes basic principles of mechanics and thermodynamics, the use of measuring instruments, and the interpretation of data.
Co-requisite: PHY 2252.
- PHY 2253 **General Physics II (3)**
 An introduction to the laws of optics, electricity and magnetism.
Prerequisite: PHY 2252/L252.
Co-requisite: PHY L253.
- PHY L253 **General Physics II Lab (1)**
 Laboratory work emphasizes basic principles of electricity, magnetism and optics, the use of measuring instruments, and the interpretation of data.
Co-requisite: PHY 2253.
- PHY 2262 **Physics I with Calculus (3)**
 Introduction to the principles and laws of mechanics and thermodynamics, utilizing the methods of calculus.
Co-requisite: MTH 1125 or higher math course, PHY L262.
- PHY L262 **Physics I with Calculus Lab (1)**
 Laboratory work emphasizes basic principles of thermodynamics and mechanics, the use of measuring instruments, and the interpretation of data.
Co-requisite: PHY 2262.
- PHY 2263 **Physics II with Calculus (3)**
 Introduction to the principles of electricity, magnetism and optics, utilizing the methods of calculus.
Prerequisite: PHY 2262/L262.
Co-requisite: PHY L263.
- PHY L263 **Physics II with Calculus Lab (1)**
 Laboratory work emphasizes basic principles of electricity, magnetism and optics, the use of measuring instruments, and the interpretation of data.
Co-requisite: PHY 2263.
- PHY 3310 **Modern Physics (3)**
 Topics covered include special relativity, quantum mechanics, statistical physics, and nuclear physics.
Prerequisites: MTH 1126, PHY 2263/L263.
Co-requisite: PHY L310.
- PHY L310 **Modern Physics Lab (1)**
 Selected experiments in modern physics.
Co-requisite: PHY 3310.
- PHY 3320 **Mathematical Methods for Physicists (3)**
 In this course, students will develop a basic understanding of the mathematical skills necessary to undertake a study in Dynamics, Electromagnetism, and Quantum Physics.
Prerequisite: MTH 1126.
- PHY 3321 **Scientific Computing (3)**
 Computational methods in Engineering and Physics.
Prerequisite: PHY 3320.
- PHY 3325 **Thermodynamics (3)**
 In this course, students will be introduced to the basic principles of thermodynamics. Topics include, energy conservation, entropy, isolated systems at constant pressure and temperature and the corresponding thermodynamic potentials. Students will learn to apply these principles to other branches of science and engineering.
Prerequisites: PHY3310/PHYL310.
- PHY 3359 **Waves and Optics (3)**
 Topics of study in this course will include properties of waves, image formation, refraction, diffraction, origin of spectra, polarized light, and optical activity.
Prerequisite: PHY 2253/L253 or PHY 2263/L263. Co-requisite: PHY L359.
- PHY L359 **Waves and Optics Lab (1)**
 Students will conduct selected experiments in waves, geometric and physical optics. Laboratory work emphasizes the basic principles of optics, the use of measuring instruments, and the interpretation of data.
Co-requisite: PHY 3359.
- PHY 4420 **Mechanics (3)**
 Introduction to the kinematics and dynamics of particles: escape and terminal velocity, drag, rotational motion and rotating frames, Foucault pendulum, planetary motion and Kepler's laws.
Prerequisites: PHY 2253/L233 or PHY 2262/L262 and MTH 1126.
- PHY 4435 **Electricity and Magnetism (3)**
 Topics include static electric and magnetic phenomena, electric and magnetic potentials, motion of charged particles, dielectric and magnetic media, and fields in conductors.
Prerequisite: PHY 2263/L263, MTH 2227.
- PHY 4438 **Electromagnetic Fields (3)**
 Topics include electric and magnetic circuit elements, Maxwell's equations and boundary condition problems in one, two and three dimensions.
Prerequisite: PHY 4435.
- PHY 4440 **Dynamics of Particles & Systems (3)**
 Introduction to the dynamics of rigid body rotation, calculus of variations and minimization and the canonical formalism.
Prerequisite: PHY 4420.
- PHY 4445 **Quantum Mechanics I (3)**
 Introduction to the principles of quantum mechanics, one dimensional systems including the square well and the simple harmonic oscillator, uncertainty relations and multi-particle systems.

- Prerequisites: PHY 3310, MTH 2227 or PHY 3320.*
- PHY 4446 Quantum Mechanics II (3)**
Topics include quantum mechanics higher dimensional systems, angular momentum in quantum mechanics, spin, the Hydrogen atom, addition of angular momentum, WKB approximation, and perturbation theory.
Prerequisite: PHY 4445.
- PHY 4460 Relativity I (3)**
Topics include Lorentz transformation, inertial coordinates, causal Structure of Spacetime, equivalence principle, gravitational effects in SR, curved Spacetime, and introduction to black holes.
Prerequisites: Permission of Instructor
- PHY 4475 Particle Physics (3)**
The basic building blocks of matter and their interactions will be developed emphasizing their relationship to symmetry groups. We will introduce the photon, basic quantum electrodynamics, and introduce Feynman rules for interacting theories.
Prerequisite: PHY 4445.
- PHY 4478 Relativity II (3)**
Topics include rotating black holes, Hawking radiation, cosmology, tensor calculus, and Einstein field equations.
Prerequisites: Permission of instructor.
- PHY 4483-85 Seminar in Relativity (1)**
Selected topics of interest within the field of relativity. *Note: may be taken up to three times for credit.*
- PHY 4490 Travel Study in Physics (1-3)**
Supervised investigation of relevant topics in Physics through travel-study abroad or within the interior of the United States.
- PHY 4491-92 Guided Independent Research (1 to 4 credit hours)**
A physics research project under the direction of a faculty member. The project must culminate in a written report with the results reported at a department seminar.
Prerequisite: Senior standing or permission of department chair. Also see index for "Independent Study and Research.."
- PHY 4493-94 Guided Independent Study (1 to 4 credit hours)**
Independent study for advanced students under the direction of a faculty member.
Prerequisite: Permission of department chair. Also see index for "Independent Study and Research.."
- PHY 4495 Topics in Physics (3)**
Focus on a topic of timely nature and/or special interest.
Prerequisites: Permission of instructor.
- PHY 4498 Internship in Physics (1-3)**
Supervised work experience in the biotechnology industry, governmental agency, business, or other working environment in which a student will learn and apply pertinent professional skills.
- PHY 4499 Senior Seminar (2)**
The main objective of this course is to complete a research project in physics. You will be bringing together many of the ideas presented to you in your physics classes. In addition, you will need to acquire skill in project definition, time management, project completion timeline and schedule, clear and concise writing, and project presentation.
Prerequisite: Permission of the instructor.
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- POLITICAL SCIENCE COURSE (POL)**
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- POL 1101 Pop Culture and Politics (3)**
Politics and popular culture have always been closely connected. Politicians seek to show how connected they are to the public, and try to use media and popular culture to do this. In this class, we will spend time learning how to define "politics" and "popular culture" so that we can understand how they interact. We will identify examples of politics being expressed in popular culture, and explore times when popular culture appears to have affected politics. There is an emphasis on the historical progression of mass media, as well as the influence of the media on politics and policies.
- POL 1110 Social Media and Politics (3)**
The digital age has revolutionized the way that people get information and communicate. Where communication and information-gathering once took time and expertise, in the digital age, information and communication is now virtually instantaneous. This is both a benefit and hindrance to politics. On the one hand, candidates can have instant communication with supporters and the people that they represent. On the other hand, the ease of sharing information and communication lends itself to false narratives and presenting alternative truths. This class will examine digital media as a political tool. Students will learn how different digital media is from traditional media. They will learn positive and negative aspects of politics in the digital age. Students will be expected to actively engage in the political process through digital media. This class is a general studies course and will fulfill the general studies requirement.
- POL 2240 Honors American National Government (3)**
This course explores the stable political values that frame the US Constitution and have guided our societal environment for two hundred years. The course is intended for superior students and political science majors.
- POL 2241 American National Government (3)**
A study of the Constitution, federalism, the Presidency, Congress, the courts, and politics on the national level.
- POL 2260 World Politics (3)**
An investigation of the development, nature, and process of political actions across national boundaries in the global system. Topics include international security, comparative government, international political economy, international organizations, and new global issues.
- POL 2270 Terrorism and Counterterrorism (3)**
This introductory course introduces students to the study of terrorism and a discussion and critique of common counterterrorist strategies. It conceives terrorist violence as a politically motivated act employed to yield calculated political results. Thus, the goal of the course is to examine theoretical explanations of terrorist violence, the history of terrorism as a political strategy, and the difficulties encountered by states seeking to engage in counterterrorism.
- POL 2275 Elections (3)**
Students taking this course will learn to apply critical thinking skills to the task of understanding the process by which citizens of democratic societies elect their political leaders. Not limited to elections in the U.S., and among other things, this course emphasizes the role of elections in democratic theory, the electoral process and how it has changed over time, how citizens process the information needed to make decisions in elections and the role of the media, as well as the impact that gerrymandering and demobilization efforts have on electoral outcomes. We will explore the impact of elections on public policy, and the impact of public policy on elections. Discussion topics will include political parties, interest groups, voter fraud, voter intimidation, candidate-centered campaigns, campaign advertisement, ethics, and the role of rhetoric in elections.

- POL 3300 Foundations of Political Science (3)**
An introduction to the discipline of political science, this course offers an overview of the sub-fields and methods within the discipline.
- POL 3330 Political Theory (3)**
An examination of selected advanced sources of classical and modern political theory. Theoretical perspectives, which are prominent in contemporary political science, are investigated.
- POL 3338 Women in Politics (3)**
This course identifies and analyzes, from a historical and contemporary point of view, the political, social, and economic trends and issues facing women. The course analyzes political theories and public policies that shape women's political participation in the United States and elsewhere. This includes and examination of political institutions and processes at the national, state, and local governmental levels facing women.
- POL 3339 African-American Politics (3)**
This course identifies and analyzes, from a historical and contemporary point of view, the political, social, economic trends and issues facing African-Americans. The course analyzes political theories and public policies that shape African-American political participation in the United States and elsewhere. Topics will vary to include the Civil Rights Movement, Black Presidential Bids, racism in American public policy, and U.S. Courts and Congress.
- POL 3340 U.S. Government – Executive Branch (3)**
An analysis of the American Presidency in the context of the Constitution, American political processes, national security, public opinion, and other branches of American government.
- POL 3341 U.S. Government – Legislative Branch (3)**
An analysis of the structure and dynamics of the U.S. Congress in the context of its relationships to the Constitution, the presidency, the judiciary, political processes and subordinate levels of government.
- POL 3342 U.S. Government – Judicial Branch (3)**
An analysis of the American federal judiciary in the context of its relationships to the Constitution, American political processes, the legislative and executive branches, state governments, and public opinion.
- POL 3343 American Political Processes (3)**
This course examines key topics in U.S. politics, specifically looking at national problems, actors and proposed solutions.
- POL 3351 International Relations (3)**
This course provides a comprehensive investigation of thinking about the relationship of both state and non-state actors in the international arena. It offers a framework for the further analysis of the discipline of International Relations including the principal schools of IR theory, the historical development of the contemporary international system, foreign policies of states, the search for state security, and the economic relationships between states within a global political context.
- POL 3355 Southern Politics (3)**
This course examines the history and processes of Southern politics, including the one-party system, the exclusion of African-Americans and poor whites from voting, the role of Southerners in the U.S. Senate and House of Representatives, and the current voting patterns and habits of the region. The course looks specifically at the politics of Alabama, Florida, Georgia, Mississippi, Louisiana, and South Carolina.
- POL 3356 Politics in Film (3)**
There is much that can be learned about politics through film and television. Using both fictional or non-fictional sources, this course will use film and television as a way to explore a variety of political themes, political actors and institutions, notable events of political and social concern, as well as other issues of interest in the public discourse at the time.
- POL 3364 State and Local Politics (3)**
An investigation of political processes and organization at the state and local level in the United States.
- POL 3390 The Art of Political Science Research (3)**
This course introduces students to the art and process of consuming and conducting political science research. Among topics to be covered are the epistemological and methodological skills.
Prerequisites: POL 3300 Foundations of Political Science.
- POL 4402 Political Geography (3)**
An analysis of the reciprocal effects of geography and political organization on the behavior of states, including boundaries, national resources, spatial strategies, and maritime power.
- POL 4405 Political Behavior and Public Opinion (3)**
This course focuses on political behavior and public opinion, both of which play important roles in democratic governance. The course surveys the major concepts of importance and some of the major scholar debates in the areas of behavior and opinion research. This course is also designed to teach students how political scientists study actions and attitudes relevant to contemporary politics. Although the course concentrates mainly on the role that behavior and opinion play in US politics, comparisons will be made to other countries.
Prerequisites: POL 3390.
- POL 4410 International Political Economy (3)**
An examination of the interrelationships between international politics and economics; states and markets, trade, foreign investment, international monetary affairs, foreign aid, state development strategies, and globalization.
- POL 4415 International Conflict (3)**
This course provides a detailed examination of patterns of international conflict and methods employed to manage them: bases, emergence, escalation, de-escalation, negotiation, mediation, termination, and consequences. Specific episodes of international conflict will be investigated.
- POL 4420 Constitutional Law (3)**
A survey of the legal, political, and methodological problems in constitutional law.
- POL 4421 Introduction to Public Administration (3)**
An introduction to the historical, institutional, and political context of the profession; current trends and issues; and the role of public administration in the larger governmental system.
- POL 4422 Public Policy Making (3)**
An introduction to the processes by which American public policy is formulated, implemented, and evaluated and to the roles of policy analysts in solving various public problems.
- POL 4424 Contemporary American Foreign Policy (3)**
This course examines the foreign policy processes of the United States: historical traditions, political institutions, economic and military capabilities, the Congress, the Presidency, interest groups, the media, and public opinion.
- POL 4425 American Law Seminar (3)**
This course provides an advanced overview of American jurisprudence. The goal is to gain a

- general understanding of American substantive and procedural law and prepare students for law school. To this end, we will focus on case law in a number of common law subjects, specifically constitutional law, criminal law and procedure, torts, contracts, and property. We will also cover legal and cultural history, jurisprudence, and ethics topics in order to promote a better understanding of the role that law plays in a modern, liberal, democratic society.
- POL 4432 Comparative Public Policy (3)**
This course examines the process of policy making in a cross-comparative framework that illustrates how different nation states, both in the developed and the developing worlds, formulate and implement public policy.
- POL 4433 Comparative Government (3)**
A comparative analysis of state governments in the world with an emphasis upon political cultures, governmental institutions and political processes that lead to differences and international tensions.
- POL 4440 Advanced Research Methods (3)**
Development and application of critical thinking skills necessary in basic, applied, and evaluative research methodologies and data analysis techniques. Students apply these advanced methodologies to issues, programs, and research problems in political science.
Prerequisites: POL 3390.
- POL 4445 Inter-American Relations (3)**
This course examines the relationship between the United States and the remainder of the Western Hemisphere, with an emphasis on historical and contemporary Latin American relations.
- POL 4450 Latin American Politics (3)**
An introduction to the social and political institutions of Latin America.
- POL 4451 Public Personnel Administration (3)**
A survey of the basic principles and functions of personnel administration in the public service and of the current strategies for managing recruitment, placement, salary and benefit strategies, training, retirement, and other personnel functions.
- POL 4452 International Law (3)**
This course examines the sources and development of international law from a historical, political, jurisprudential, and philosophical standpoint. It will include a comprehensive investigation of state sovereignty, jurisdiction, the role of the United Nations, the regulation of the use of force in world affairs, and international human rights law.
- POL 4453 Bureaucratic Politics (3)**
A study of the theories of organizations and their structures as they affect the policymaking environment, examining goals, resources, effectiveness, equilibrium, and change relating to organizations and their relationship to administration.
- POL 4460 Intercultural Relations (3)**
An analysis of the influence of culture on interstate relations including theories, concepts, and applications.
- POL 4462 Politics in China (3)**
This course provides an introduction to the contemporary political system and economic development of China. Although the focus of the course is China's domestic politics in post-Mao era, a brief history of China's development from 1949 to present will be reviewed at the beginning of the term. Also, the last session of the course will look at China's foreign policies and its role in the world. There are four broad themes in this course: 1). Economic reform and how Chinese government blend capitalism and communism/socialism together; 2). Political Institutions and policy making; 3). State-Society Relations; 4). Key challenges facing the CCP government.
- POL 4464 Arab-Israeli Conflict (3)**
This course focuses on the Arab-Israeli conflict since 1948 with a special focus on the challenges to conflict resolution on both the Arab and Israeli sides and the role great powers play in Middle Eastern politics. The course will begin by examining the major historical events from the birth of Israeli to the present day. Attention will be given to important groups, events, movements that will allow the complexity of this relationship to come to light. Additionally, the course will focus on the relationship between the West, particularly Europe and the United States, and the Middle East.
- POL 4465 Politics of the Developing World (3)**
This course examines the political and economic challenges faced by developing states. Theories and models of development will be analyzed in a variety of ways.
- POL 4466 Middle Eastern Politics (3)**
An introduction to the social and political institutions of the contemporary Middle East.
- POL 4467 Asian Politics (3)**
An introduction to the social and political institutions of Contemporary Asia.
- POL 4468 Russian Politics (3)**
This course provides an introduction to Soviet, post-Soviet, and Russian politics and the way we in the West study and think about them. The substantive focus is on the political process and its policy outcomes. Primary attention will be directed to post-1991 (i.e., post-Soviet) political institutional, elite, and policy concerns.
- POL 4469 Religion in Politics (3)**
This is a course that deals with the intersection between two contentious topics in the United States, religion and politics. In this course, the focus is on the manner in which religion, defined in organizational terms, as a system of beliefs, as a source of faith and morality, and as specific types of behaviors, intersects with and influences various aspects of American politics. These aspects of politics include morality and "moral politics" issues, political behaviors, public and individual opinions, campaigns and electoral mobilization, as well as domestic and foreign policy.
- POL 4470 European Politics (3)**
An introduction to the social and political institutions of contemporary Europe.
- POL 4472 Administrative Law (3)**
This course examines the legal environment in which government agencies function, including the powers and procedures that control administrative discretion, rule-making, investigations, prosecuting, negotiating, and settling; constitutional law, statutory law, common law, and agency-made law; the liability of governments and their officers; and selected court cases and decisions.
- POL 4474 Terrorism and Political Violence (3)**
This course is designed to introduce students to the origins and significance of contemporary political violence with an emphasis on the phenomenon of terrorism. It employs an interdisciplinary, case-study approach.
- POL 4476 Politics of Southeast Asia (3)**
This course involves the study of politics in the Philippines, Indonesia, Vietnam, Laos, Kampuchea, Malaysia, Singapore, Brunei, Myanmar, and Thailand. It investigates the historical and cultural factors contributing to their political relationships within the region and internationally.
- POL 4479 Study Abroad in Political Science (1-3)**

	Guided investigation of different political systems and political cultures through study abroad. Students will work closely with faculty prior to and during a study abroad trip to understand these political systems and cultures. Student can earn from 1-3 credit hours. <i>Prerequisites: Must have permission of the instructor and the Chair of the Political Science Department to register for this class.</i>	PSY 2210	Developmental Psychology (3) A study of human development across the life-span with emphasis on psychosocial, physical, emotional, and cognitive changes.
		PSY 2230	Orientation to the Psychology Major (3) Introduction to the language of psychology, APA writing style, and library research. Also includes an over view of career paths in psychology.
POL 4490	Internship in Political Science (1 to 3 credit hours) Supervised work in an agency that can provide practical experience in the field of study. <i>Prerequisites: senior standing and approval of supervising instructor and the department chair.</i>	PSY 3301	Basic Statistics (3) An introduction to descriptive and inferential statistical concepts, methods, and tools. Topics to be covered include basic terminology, measurement, data description, probability, hypothesis testing, and inferential tests (parametric and non-parametric). May be used for Sociology credit. <i>Prerequisite: MTH 1110 or higher, with a grade of C or above.</i>
POL 4491-92	Guided Independent Research (1 to 3 credit hours each) <i>Note: Additional information is indexed under Independent Study and Research.</i>	PSY 3304	Abnormal Psychology (3) The study of mental disorders emphasizing their etiology, classification and amelioration as described in the current classification system of the American Psychiatric Association.
POL 4493-94	Guided Independent Study (1 to 3 credit hours each) <i>Note: Additional information is indexed under Independent Study and Research.</i>	PSY 3309	Advanced Statistics (3) Advanced quantitative methods in psychology. Topics include linear regression, analysis of variance, non-parametric techniques, estimation procedures, individual and multiple comparisons, and experimental design. <i>Prerequisite: PSY 3301.</i>
POL 4495	Selected Topics in Political Science (3) Examines selected topics of a timely nature and/or special interest within the field of political science.	PSY 3310	Sensation and Perception (3) A study of how sensory information helps both the human species and other animals to thrive. Exploration of the senses including their physiological makeup, development and functioning. Theoretical and empirical foundations of perception and the applications of perceptual knowledge are emphasized. <i>Prerequisite: six semester hours of psychology and sophomore standing or above.</i>
<hr/> PUBLIC RELATIONS JOURNALISM (PRJ) <hr/>			
PRJ 2230	Principles of Public Relations (3) This introductory course examines the communication and persuasion concepts underpinning public relations, in addition to public relations history, role, ethical and professional standards, strategic planning and tactical planning.	PSY 3311	Research Methods (3) An introduction to the design, analysis, and interpretation of behavioral research, including strategies for reviewing scientific literature and organizing a research report. <i>Prerequisite: PSY 2230 and PSY 3301.</i>
PRJ 3321	Public Relations Cases and Strategies (3) A case study and project-based approach to public relations research, strategy setting and tactical implementation. <i>Prerequisites: PRJ 2230 and either JRN 1102 or PRJ 3375.</i>	PSY 3312	Psychology of Women (3) The study of women's experience and gender issues in the context of psychological theory and research.
PRJ 3375	Public Relations Writing (3) This course (designed for non-journalism majors) focuses on developing the professional writing skills required for public relations practitioners, AP style and how to write effectively for clients, the media and for online publications.	PSY 3315	Cultural and Diversity Psychology (3) This course is a theoretical and empirical analysis of how culture is connected to human behavior. Global cultural differences and perspectives will be discussed including research studies, theory, and comparative analyses (i.e. Eastern vs. Western comparative analyses). Discussions will include human behavior across different countries, the evolution of culture, self and personality, mental and physical health, and living in multicultural worlds. Diversity topics will cover such issues as gender, ethnicity, classism, disability, worldviews, and role constructions. Diversity discussions will include stereotypes, biases, ageism, ableism, and gender role development. Sexual orientation and evolving cultural laws will be examined.
PRJ 4419	Advanced Public Relations Tactics (3) Practical experience in preparation of public relations messages for a client. This course is limited to juniors and seniors <i>Prerequisite: PRJ 3321.</i> <i>Co-requisite: PRJ 4423.</i>		
PRJ 4423	Public Relations Case Studies (3) Application of public relations theory and best practices resulting in the creation of a complete public relations campaign for a client. This course is limited to juniors and seniors <i>Prerequisite: PRJ 3321.</i> <i>Co-requisite: PRJ 4419.</i>		
<hr/> PSYCHOLOGY COURSES (PSY) <hr/>			
PSY 2200	Introduction to Psychology (3) A survey of the basic theories, concepts, principles, and research findings in the field of psychology.	PSY 3316	Mixed Methods Research (3) This course examines the advantages and techniques of mixing quantitative research methods in order to answer scientific questions within the field of psychology and other related fields. By learning how to integrate qualitative methodologies, when appropriate, students should gain an understanding that research should be guided by the questions we want to answer and not limited by the methodologies we prefer. Students will learn techniques for
PSY 2201	Honors General Psychology (3) A survey of the basic theories, concepts, principles, and research findings in the field of psychology.		
PSY 2205	Psychology of Adjustment (3) A course in mental health, designed to assist the individual in making a good adjustment to the changing requirements of the environment.		

- collecting, analyzing, integrating, interpreting, and reporting data from mixed methods research.
Prerequisites: PSY 3301.
- PSY 3317 Ethics in Research and Practice (3)**
This course introduces the student to ethical practices in psychology by focusing on the underlying principles of the 80+ standards of the APA Ethics Code. The course begins by covering the basics of the APA Ethics Code, including a brief history and an overview of general concepts. Next, it explores the four ethical concepts applicable to all psychologists: competence, informed consent, privacy and confidentiality, avoiding harm and exploitation. Finally, it relates these key concepts to specific situations, including assessment, treatment, research and publication, and teaching and supervision.
- PSY 3320 Child Psychology (3)**
The development of children from conception to puberty. Includes physical, cognitive, perceptual, language, social and emotional development.
- PSY 3322 Abnormal Child Psychology (3)**
A study of theories, research, etiology, assessment and diagnosis of mental disorders first seen in childhood or adolescence as defined by the current edition of the *Diagnostic and Statistical Manual of Mental Disorders*. Includes such disorders as ADHD, conduct problems, anxiety, mood, mental retardation, and autism.
- PSY 3325 Adolescent Psychology (3)**
Adolescents from puberty to early adulthood. Includes physical, cognitive, social, emotional, and personality development in cultural context.
- PSY 3330 Health Psychology (3)**
This course studies the science that connects behavior to health, including psychological processes and the relationship between health and human behavior.
- PSY 3332 Family Violence (3)**
An in-depth study of violence in families, including spousal abuse, child abuse, elder abuse, relationship dynamics, protection services, treatment programs, legal defense strategies, and current legislation.
Note: May be taken for psychology or sociology credit, but not both.
- PSY 3340 Psychology of Learning (3)**
Introduction to learning and behavior in human and nonhuman animals, including fundamental principles and findings from laboratory investigations of classical, instrumental, cognitive, and social learning.
- PSY 3346 Educational Assessment (3)**
This course provides a study of measurement and evaluation techniques for the classroom teacher. Emphasis will be placed on the selection, evaluation, administration, scoring and interpretation of selected measures of student performance, achievement and behavior. The student will demonstrate skills in utilizing measurement data to plan appropriate learning activities for students.
Prerequisite: admission to TEP. Note: May not be used to meet the requirements for the psychology major or minor.
- PSY 3351 Theories of Learning (3)**
Critical analysis of the major theories of learning, including the works of Pavlov, Thorndike, Guthrie, Tolman, Hull, Skinner, and Mowrer.
- PSY 3360 Forensic Psychology (3)**
Forensic psychology is the application of the science and profession of psychology to questions and issues relating to law and the legal system. This course will introduce students to the specialty area of forensic psychology. Particular emphasis will be on applied aspects of the field.
- PSY 3365 Human Factors Psychology (3)**
Analysis of theoretical issues and research methods related to the interaction between people and machines and human performance. Topics include information processing theory, human control systems and displays, task simulation, perceptual and motor factors limiting human performance.
Prerequisite: six semester hours of psychology.
- PSY 3370 Comparative Psychology (3)**
This course examines the development, causal mechanisms, evolutionary history, and function of the behavior of animals, including humans.
- PSY 3380 Social Psychology (3)**
A theoretical and empirical analysis of social behavior, including selected topics related to social perception, social influence, social interaction, and applied social psychology.
- PSY 3385 Evolutionary Psychology (3)**
An examination of human behavior and cognition from an evolutionary perspective.
- PSY 3390 Special Topics in Psychology (3)**
An examination of selected topics or issues in psychology.
May be repeated for credit when course content varies.
Prerequisite: six semester hours of psychology.
- PSY 4400 Advanced General Psychology (3)**
A comprehensive study of the discipline of psychology designed to expand the student's depth and breadth of knowledge in psychology.
Prerequisite: Senior status (90 semester hours of undergraduate courses) and a minimum of 15 semester hours of psychology.
- PSY 4401 Psychological Tests and Measurements (3)**
Selection, evaluation, administration, scoring, interpretation and uses of tests of intelligence, proficiency, interests, personality, aptitude and social adjustment.
Prerequisite: Additional three semester hours of psychology.
- PSY 4402 Principles of Counseling (3)**
Overview of major counseling theories and techniques, interviewing, assessment, professional issues and ethics, and a review of research and practical problems.
Prerequisite: six semester hours of psychology.
- PSY 4405 Experimental Psychology (3)**
Various techniques for conducting scientific research in psychology will be discussed. Course objectives include designing and conducting an experiment as well as analyzing and reporting the results.
Prerequisite: PSY 2230 and PSY 3301.
- PSY 4410 Industrial/Organizational Psychology (3)**
Application of psychology in business and industry, including employee selection, performance appraisal, motivation, organizational psychology, consumer motivation, group structures, and personnel problems.
- PSY 4420 Physiological Dynamics of Alcohol and Other Drugs (3)**
Study of physiological and psychological dynamics and resultant behavioral implications in use of alcohol and other drugs. Based on assessment of dynamics and behavior and application of diagnostic procedures using appropriate manuals and materials.
- PSY 4421 Physiological Psychology (3)**
The physiological correlates of behavior will be examined, including such topics as neurotransmitters and hormones, drugs, and the biological roots of mental disorders.

Prerequisite: PSY 2230 and an additional three semester hours of psychology.

- PSY 4430 Intro to Substance Abuse Counseling (3)**
This course provides an introduction to substance abuse counseling through studies of mind-altering substances; etiological theories of addiction; assessment interviewing and screening tests; individual, group, family, and other treatment options; relapse prevention; and community prevention programs.
- PSY 4434 Drug Education, Prevention and Intervention (3)**
A study of commonly abused drugs, drug abuse prevention, and treatment techniques. Examines characteristics of people at high risk to become substance abusers/addicted.
- PSY 4435 Treatment of Addictive Family Diseases (3)**
A study of typical characteristics of dysfunctional families. Provides the basis for suggested intervention techniques, appropriate areas of family education, and guidelines for effective therapy.
- PSY 4436 Treatment Theories and Modalities of Addictive Diseases (3)**
A study of historical perspectives and the most effective treatment and assessment approaches of addictive diseases.
- PSY 4450 Theories of Personality (3)**
Critical analysis of major theories and systems of personality.
Prerequisite: six semester hours of psychology.
- PSY 4451 History and Systems of Psychology (3)**
Study of the development of psychology from its historical antecedents with special emphasis placed on contemporary schools and systems of psychological thought.
Prerequisite: PSY 2230 and Senior Status (90 semester hours of undergraduate courses).
- PSY 4456 Gerontology (3)**
The study of aging. Emphasis on biomedical, psychological, and social aspects of middle and late adulthood.
- PSY 4459 Applied Behavior Analysis (3)**
This course covers the characteristics of behavior analysis as well as the basics of behavior-change procedures. Students will design, plan, implement, and present a behavior-change project.
- PSY 4460 Cognitive Psychology (3)**
A study of human intellectual functioning including attention, perception, memory, problem solving, reasoning and language.
Prerequisite: PSY 2230 and an additional three semester hours of psychology.
- PSY 4461 Applied Behavior Analysis Field Experience (3)**
Students will be provided individual supervision by an approved supervisor according to the behavior analysis certification board's (BACB) standards while engaged in the practice of applied behavior analysis. Travel to the assigned clinical site will be required. Regular and prompt attendance at the clinical site will be required. The supervisor must directly observe the student engaged in the practice of applied behavior analysis with their client at least once during every supervisory period in accordance to BACB standards. Students will engage in a variety of activities approved by the BACB such as (a) conduct behavioral assessments; (b) provide behavioral therapy to clients; (c) read related articles from the behavior analytic literature; (d) collect, graph, and analyze client and/or procedural integrity data; and (e) design and implement caregiver and/or staff training. This course may be taken for repeat credit with a different assigned client.

Prerequisite: PSY 4459 AND Instructor approval.

- PSY 4462 Applied Behavior Analysis Pre-Practicum (1)**
This course prepares students for participating in the applied behavior analysis practicum courses. Students must obtain liability insurance and pass a criminal background check. Students must pass a test on the ethics of working with special populations (e.g., client confidentiality). Students are required to take and pass the behavior analysis certification board's training module on experience and supervision standards. Students are required to complete 15 hours of observation of the practice of applied behavior analysis.
Prerequisite: PSY 4459 AND permission of the course instructor.
- PSY 4470 Advanced Theories of Developmental Psychology (3)**
Comparative study of major developmental theories from the exogenous, endogenous, and constructivist paradigms. Includes history, structural components, contributions, criticisms, evaluation, and relevant research of each theory.
Prerequisite: six semester hours of psychology.
- PSY 4472 Applied Behavior Analysis Fourth to Fifth Edition Bridge Course (4)**
This course allows Applied Behavior Analysis Minors who have taken one or more of Troy University's Board Certified Assistant Behavior Analyst (BCaBA) verified course sequence courses under the Behavior Analysis Certification Board (BACB) Fourth Edition Standards to meet the coursework standards for the Fifth Edition. This course covers topics from the BACB Compliance Code and Disciplinary Systems, Professionalism, Measurements, Data Display and Interpretation, Experimental Design, Behavior Assessment, Behavior-Change Procedures, Selecting and Implementing Interventions, and Personnel Supervision and Management.
- PSY 4474 Evaluation of Research for the Behavioral Treatment of Individuals with Autism and Developmental Delays (3)**
This course will present a behavioral view of autism and provide a brief overview of the history of behavioral treatment of autism and other developmental delays. This course will provide a brief overview of single-subject research designs and data analysis. Students will evaluate research studies that are seminal in the field of the behavioral treatment of children with autism and developmental delays in terms of (a) ethics, (b) research design, and (c) visual analysis.
- PSY 4476 Behavioral Treatment of Individuals with Autism and Developmental Delays (3)**
In this course, students will identify, describe, and practice behavioral change procedures using: (a) positive and negative reinforcement, (b) positive and negative punishment, (c) shaping, (d) each type of verbal operant, (e) extinction, and (f) differential reinforcement. Students will contrast discrete-trial teaching and incidental teaching methods and practice using both.
Prerequisite: PSY 4459.
- PSY 4477 Behavioral Assessment of Individuals with Autism and Developmental Delays (3)**
This course prepares students to conduct behavior analytic assessments, including preference and skills-based assessments. Students will also learn to describe the common functions of problem behavior and write treatment plans based on assessment results.
Prerequisite: PSY 4459.

- PSY 4478 The Behavior Analyst as a Professional and Ethical Practitioner (3)**
Through a variety of topics and activities, this course will prepare the student for working in a professional setting. Topics covered include the Professional and Ethical Code for Behavior Analysts and a selection of topics from Behavior Analyst Certification Board's BCBA/BCaBA Task List.
Prerequisites: PSY 4474, PSY 4477.
- PSY 4480 Senior Seminar in Psychology (3)**
A capstone course designed to integrate subject matter learned in previous courses, encourage critical analysis of contemporary issues, and contemplate future educational and employment opportunities in psychology.
Prerequisite: Senior standing.
- PSY 4485 Psychology Study Aboard (3)**
This course examines how culture is related to human behavior. Relates major principles and theories of psychology to two or more cultures during a Study Abroad experience in a host country or countries.
Prerequisites: PSY 2200 or Psychology Major or Minor.
- PSY 4490 Field Experience in Psychology—I**
This course is designed to provide students majoring or minoring in psychology with practical work experience in a psychology-related work setting within an approved agency or business. Students are required to complete a minimum of 45 documented, supervised clock hours during the semester or term in which enrolled in the course (transportation not provided). This class meets once a week in a seminar format. Students are required to meet with the Field Experience instructor the semester/term prior to the class in order to secure an approved site.
Prerequisites: Junior or senior standing, instructor approval, PSY 4490 and an overall institutional GPA of 3.0.
- PSY 4491 Guided Independent Research (3)**
This course is designed to provide supervised research in the area of psychology. Opportunities for undergraduate research will be approved with attention to critical evaluation of research techniques, methods, and procedures. Selection of the problem must be approved by the professor under whom the study is to be conducted and the department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. Preparation of a scholarly paper and oral defense may be required.
Prerequisite: Junior or senior standing with a minimum overall GPA of 3.0. Guided independent research may be taken only in the applicant's major or minor field. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."
- PSY 4492 Guided Independent Research (1 to 3 credit hours)**
This course is designed to provide supervised research in the area of psychology. Opportunities for undergraduate research will be approved with attention to critical evaluations of research techniques, methods, and procedures. Selection of the problem must be approved by the professor under whom the study is to be conducted and the department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. Preparation of a scholarly paper and oral defense may be required.
Prerequisite: Junior or senior standing with a minimum overall GPA of 3.0. Guided independent research may be taken only in the applicant's major or minor field. May not be used to repeat a course
- for which a grade of D or below has been earned. Also see index for "Independent Study and Research."*
- PSY 4493-94 Guided Independent Study (1 to 3 credit hours)**
Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisite: Junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."
- PSY 4495 Field Experience in Psychology - II**
This course is designed to provide students majoring or minoring in psychology with practical work experience in a psychology-related work setting within an approved agency or business. Students are required to complete a minimum of 45 documented, supervised clock hours during the semester or term in which enrolled in the course (transportation not provided). This class meets once a week in a seminar format. Students are required to meet with the Field Experience instructor the semester/term prior to the class in order to secure an approved site.
Prerequisites: Junior or senior standing, instructor approval, PSY 4490 and an overall institutional GPA of 3.0.
- PSY 4496 Applied Behavior Analysis Practicum I (3)**
Prior to enrollment, students must have a criminal background check and professional liability insurance. Students must complete 250 hours of supervised experience delivering applied behavior analysis services in a clinical setting. Students must meet with the instructor for class, which counts as the group-supervision component. During class, students will practice delivering behavioral-analytic services. Students must meet weekly with an approved Board Certified Behavior Analyst (BCBA) for individual supervision. During individual supervision, the BCBA must (a) observe the student engage in practice and (b) provide written and verbal feedback on that practice according to the BACB guidelines for supervision. The course is limited to 10 students.
Prerequisites: PSY 4462 AND permission of the instructor.
- PSY 4497 Applied Behavior Analysis Practicum II (3)**
Prior to enrollment, students must have a criminal background check and professional liability insurance. Students must complete 250 hours of supervised experience delivering applied behavior analysis services in a clinical setting. Students must meet with the instructor for class, which counts as the group-supervision component. During class, students will practice delivering behavioral-analytic services. Students must meet weekly with an approved Board Certified Behavior Analyst (BCBA) for individual supervision. During individual supervision, the BCBA must (a) observe the student engage in practice and (b) provide written and verbal feedback on that practice according to the BACB guidelines for supervision. The course is limited to 10 students.
Prerequisites: PSY 4496 AND permission of the instructor.
- PSY 4498 Applied Behavior Analysis Practicum III (3)**
Students must complete 250 hours of supervised experience delivering applied behavior analysis services in a clinical setting. Students must meet with the instructor for class, which counts as the group-supervision component. During class, students will practice delivering behavioral-analytic services. Students must meet weekly with an

approved Board Certified Behavior Analyst (BCBA) for individual supervision. During individual supervision, the BCBA must (a) observe the student engage in practice and (b) provide written and verbal feedback on that practice according to the BACB guidelines for supervision. The course is limited to 10 students.

Prerequisites: PSY 4497 AND permission of the instructor.

PSY 4499

Applied Behavior Analysis Practicum IV (3)
Students must complete 250 hours of supervised experience delivering applied behavior analysis services in a clinical setting. Students must meet with the instructor for class, which counts as the group-supervision component. During class, students will practice delivering behavioral-analytic services. Students must meet weekly with an approved Board Certified Behavior Analyst (BCBA) for individual supervision. During individual supervision, the BCBA must (a) observe the student engage in practice and (b) provide written and verbal feedback on that practice according to the BACB guidelines for supervision. The course is limited to 10 students.

Prerequisites: PSY 4498 AND permission of the instructor.

QUANTITATIVE METHODS COURSES (QM)

QM 2241

Business Statistics (3)

This course introduces statistics and data analytics to support business decisions. Topics include probability, descriptive, and inferential statistics.

Prerequisite: MTH 1112 or higher and IS 2241.

QM 3342

Decision-Making and Data Analytics (3)

This course introduces qualitative and quantitative analytic techniques applicable to business and economics and how these techniques may be applied to critical thinking and decision-making skills. Topics include individual and group decision-making, decision-making biases, decision modeling, and decision analysis.

Prerequisite: Lower-level Business Core.

QM 3345

Operations Management (3)

A study of how organizational processes add value as they convert inputs to outputs. Topics covered include the strategic relationship of operations with other functional organizations, value chain concepts, and quantitative methods including forecasting models, inventory models, statistical process control, process models and project management methods. The course also provides a review of current supply chain philosophies such as JIT, MRP, and EOQ inventory management methods.

Prerequisites: Lower-level Core, MGT 3300, QM 2241, IS 2241.

READING/LITERACY COURSES (RED)

RED 0098

Reading I (3)

A Developmental / Remedial instruction course for those students who are deficient in basic reading skills such as word recognition comprehension and study skills. A placement test will be required.

Note: May not be audited. Institutional credit only.

RED 3310

Language and Literacy K-6 (3)

Literacy instruction for the K-6 learner with emphasis on child development, learning theories, individual differences, emergent and early literacy, principles of reading and language arts instruction, teaching strategies, and examination of current materials and instructional practices used in teaching literacy.

RED L310

Language and Literacy Lab (1)

This course includes Lab/Field-oriented experiences designed to enhance the understanding of Literacy instruction for the K-6 learner with emphasis on child development, learning theories, individual differences, emergent and early literacy, principles of reading and language arts instruction, teaching strategies, and examination of current materials and instructional practices used in teaching literacy.

Prerequisite: Admission to TEP.

RED 3380

Children's Literature (3)

The purpose of this course is to assist undergraduate students as they investigate and construct an understanding of and techniques to incorporate children's literature across the curriculum. Pertinent topics include award-winning authors and titles found in children's literature among a variety of genre, along with developmentally appropriate instructional techniques.

RED 4401

Reading in the Content Areas (3)

This course provides a study of teaching reading in grades P-12, emphasizing methods in the content areas.

Prerequisites: Admission to TEP.

RED 4465

Literacy Practicum (3)

The practicum is designed to provide a supervised experience related to instruction in the area of literacy development, which may include phonemic awareness, phonics, fluency, vocabulary, sequencing, and comprehension, among others. The application of literacy skills, concepts, and principles acquired in corequisite course work, as well as current research and evidence based literacy instructional practices, will be hallmarks of the practicum experience.

Prerequisites: Admission to TEP.

RED 4483

Reading Intervention Strategies (3)

Principles of assessment and evaluation for improving the language and literacy learning. Pre-service teachers will be introduced to the variety of screening and testing instruments for use in modifying students' instructional programs. Formal and informal methods for classroom observations will be explored, and methods for translating data collected for classroom management and/or communication to learners' parents will be introduced. The issues of privacy and ethical treatment of confidential records will also be addressed.

Prerequisites: (1) Admission to TEP and (2) RED 3310 or with the permission of the department chair or designee.

RED L483

Reading Intervention Strategies Lab (1)

This course includes Lab/Field-oriented experiences designed to enhance understanding of principles of assessment and evaluation for improving the language and literacy learning.

Prerequisite: admission to TEP.

RED 4491-92 **Guided Independent Research (1 to 3 credit hours)**

Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.

Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department

chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."

RED 4493-94 Guided Independent Study (1 to 3 credit hours)

Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: Junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

REHABILITATION COURSES (RHB)

- RHB 2280 Rehabilitation Research I (3)**
 Introduction to statistical analysis concepts and principles necessary for understanding research reports and for the interpretation of data. Use of microcomputer statistical programs in the analysis of univariate, bivariate, and multivariate data including parametric and non-parametric analysis techniques. Topics include descriptive techniques, averages and measures of variation, tests of statistical significance, correlation and regression, and analysis of variance.
Prerequisite: MTH 1110 or 1112 and IS 2241.
- RHB 2281 Rehabilitation Research II (3)**
 Introduction to research methodology and process with emphasis placed on the evaluation of practice. Understanding and using the journal research article as a tool for selecting appropriate intervention. Skills are built in using electronic data bases and information retrieval systems and integrated with writing skills necessary to critically evaluate the usefulness of research studies in practice application.
Prerequisite: RHB 2280.
- RHB 3320 Human Behavior In the Social Environment II (3)**
 An examination of the social dynamics of discrimination and oppression and particularly, how discriminatory and oppressive environments have potential for negatively affecting bio psychosocial growth and development.
- RHB 3330 Introduction to Attachment Theory and Pathology in Infant/Early Childhood Mental Health (3)**
 This is an undergraduate level course and will provide a broad overview of Attachment theory from its origins to current research and understanding. Pathology versus wellness will be understood through the use of the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC:05) and other models of cultural and societal influences including policy, ethics and Infant/Early Childhood Mental Health trends. Additionally, reflective supervision/consultation models will be explored. Course readings and recordings are pulled from clinical and nonclinical infant/early childhood mental health and parent mental health sources.

- RHB 3335 Introduction to Infant/Early Childhood Neuroscience, Testing, and Assessment in Mental Health (3)**
 This is an undergraduate level course and will provide a broad overview of Neuroscience and interpersonal neurobiology, which will be discussed and considered together with ethics, cultural and other specific influences. Additionally, various models of assessment will be examined, such as, biopsychosocial development and cultural formation of infants and their families through reflective lens of attachment, neurobiology, ethics, case conceptualization, and other factors using clinical observations of infants, families, and relationships; informal and formal assessments. Course readings and recordings are pulled from clinical and nonclinical infant/early childhood mental health and parent mental health sources.
- RHB 3340 Social Policy and Planning (3)**
 Exploration of the social policy formulation process and the building of analysis skills in the evaluation of social policy and programs. The impact of political, economic, and social forces is a focal point, and the process of incrementalism in implementation is examined.
- RHB 3345 Foundations of Rehabilitation (3)**
 Review of historical, philosophical, and legislative development of the rehabilitation movement; focuses on current service delivery systems and trends.
- RHB 3350 Disability and Employment (3)**
 An orientation to the complex interaction between disability and employment along with the meaning and importance of work to the individual, family and community. Includes career development theories and strategies for integrating people with disabilities into meaningful careers.
- RHB 3355 Introduction to Developmental Infant/Early Childhood Mental Health (3)**
 This is an undergraduate level course and will provide a board overview of early human development for infants and their families. A basic understanding of influences that lead to mental health wellbeing and influences that can push development off track will be examined through the lens of attachment, neurobiology, and biopsychosocial factors. A clinical mental health and reflective perspective will be employed to inform understanding, case conceptualization, assessment and treatment of infants and their families. Course readings and recordings are pulled from clinical and nonclinical infant/early childhood mental health and parent mental health sources.
- RHB 3360 Vocational Assessment (3)**
 Processes, principles, and techniques used to diagnose vocational assets and liabilities of the individual. Emphasis upon the use of psychometric tests, work samples, and job samples.
- RHB 3365 Introduction to Visual Impairment (3)**
 This course will provide an understanding of the medical, psychological, social, educational, and vocational issues that professionals must understand in order to work effectively with persons who are visually impaired.
- RHB 3375 Diversity (3)**
 This course provides students with an understanding and appreciation of cultural diversity, Ethnic and gender sensitivity, as well as ageism, in social work practice with a variety of populations is highlighted.

- RHB 3380 Medical and Vocational Aspects of Disabilities (3)**
Examines specific physical, psychiatric, and cognitive disabilities from medical, psychological, and vocational points of view. Covers a number of disabling conditions including etiology, characteristics, and implications for treatment and accommodation.
- RHB 3385 Rehabilitation of Persons with Severe Disabilities (3)**
Course explores rehabilitation needs of persons with severe disabilities. Concepts, approaches, philosophy and ethical considerations related to independent living, supported employment, and advocacy efforts.
- RHB 4405 Juvenile Rehabilitation and Counseling (3)**
Treatment modalities, diagnostic techniques, intervention systems, concurrent problems, and counseling techniques with adolescents. Emphasis is upon evaluation of services, i.e., vocational, self-concepts, academic, psychotherapy, peer relations, group counseling, family relations, and life skill development.
- RHB 4410 Rehabilitation Pre-practicum (1)**
Preparation for RHB 4420.
Prerequisites: RHB major with senior standing or permission of instructor.
- RHB 4420 Rehabilitation Practicum I (3)**
Supervised experience in a rehabilitation setting with an emphasis on the diversity of human problems and the impact these problems have on people with disabilities. Includes a weekly seminar plus a minimum of 120 hours in a particular agency setting.
Prerequisites: Rehabilitation major, RHB 4410. Practicum site must be approved by instructor during RHB 4410.
- RHB 4430 Rehabilitation Practicum II (3)**
Supervised experience in a rehabilitation setting with an emphasis on the diversity of human problems and the impact these problems have on people with disabilities. Includes a weekly seminar plus a minimum of 120 hours in a particular agency setting.
Prerequisites: Rehabilitation major, RHB 4410. Practicum site must be approved by instructor during RHB 4410.
- RHB 4440 Rehabilitation Practicum III (3)**
Supervised experience in a rehabilitation setting with an emphasis on the diversity of human problems and the impact these problems have on people with disabilities. Includes a weekly seminar plus a minimum of 120 hours in a particular agency setting.
Prerequisites: Rehabilitation major, RHB 4410. Practicum site must be approved by instructor during RHB 4410.
- RHB 4450 Senior Seminar (2)**
The impact of recent changes in federal and state legislation and the role and function of professional organizations and their positions on current issues.
Prerequisite: HS/RHB major with senior standing or permission of instructor.
- RHB 9920 Youth Leadership Forum Practicum (3)**
The goal of the Youth Leadership Forum (YLF) is to develop a network of young adults with disabilities who realize their ability to pursue meaningful employment and societal contributions, while helping break down the barriers to independence for people with disabilities. Students taking RHB 9920 serve as group leaders for YLF participants and organize and carry out group activities and participant events. Requires Pre-YLF leadership training during the spring semester and a

commitment to live on campus with the YLF participants for approximately a week.
Prerequisite: permission of instructor.

RELIGION (REL) COURSES

- REL 2210 Introduction to Biblical Studies (3)**
An Introduction to the books of the Old Testament (Hebrew Bible) and New Testament in their historical settings, emphasizing textual analyses, literary forms/ their function and use in the past and present in both the Jewish and Christian traditions.
- REL 2230 General Topics in Religion (3)**
Historical examination of a designed topic of special and/or current interest and importance generally not covered in regularly offered courses by the department. This course may be repeated once for credit.
- REL 2280 World Religions (3)**
Historical development and basic beliefs of the world's major religions.
- REL 2285 Travel Study in Religion (1-3)**
Supervised investigation of relevant topics in religion through travel-study abroad or within the interior of United States.
Prerequisite: Permission of instructor. Course may be repeated for credit with permission of instructor.
- REL 3380 Travel Study in Religion (1-3)**
Supervised investigation of relevant topics in religion through travel-study abroad or within the interior of the United States.
Prerequisite: Permission of Instructor. Course may be repeated for credit with permission of instructor.
- REL 4445 Selected Topics in Religion (3)**
Advanced study of a designed topic of special interest generally not covered in regularly offered courses by the department. This course may be repeated once for credit.
Prerequisites: REL 2210, REL 2280, or permission of instructor
- REL 4499 Internship in Religion (1-3)**
Supervised work in an agency that can provide experience in the field of study.
Prerequisites: senior standing, at least a 2.5 GPA, 12 hours in upper-division courses in the field, and permission of supervising instructor, department chair, and/or dean. Course may be repeated for credit with permission of instructor.

RISK MANAGEMENT AND INSURANCE COURSES (RMI)

- RMI 3335 Principles of Risk Management and Insurance (3)**
An introduction to the legal principles underlying insurance, the basics of risk management, the application of risk management techniques to personal risk management problems, personal property and liability insurance contracts including the personal auto policy and the homeowner's package, insurance regulation, and the insurance marketplace.
Prerequisite: Lower-level Core or permission of department chair.
- RMI 3346 Life and Health Insurance (3)**
Study of types of life insurance and annuity contracts and their uses; regulations of life and health insurers; development of financial plans utilizing life insurance products; Social Security; group and individual health insurance products including major medical, disability income and long-term care policies and analysis of the marketplace.
Prerequisite: RMI 3335.

RMI 3348	Property and Casualty Insurance (3) This course examines the fundamental coverage and policy provisions of the major types of commercial and personal property and liability insurance contracts. Also examined are the fundamentals of property and casualty insurance, including analysis of contracts, rating, underwriting, regulation, and financial strength of insurers. <i>Prerequisite: RMI 4442</i>	RMI 4498	Internship (3) The internship provides students with the opportunity to gain real-world insurance experience as a summer employee of an insurance company. Students are interviewed and selected by the individual insurance companies. See the RMI department for specific requirements.
RMI 4425	Special Topics in Risk Management and Insurance (3) This course examines a selected risk management and insurance topic of interest that is not covered in other course offerings. The topic for the semester will be indicated in advance. Students may only take this course once for a maximum credit of three hours. Note: This course may not be substituted for any required course within the Global Business RMI major. <i>Prerequisite: RMI 4442</i>	RMI 4499	London Study Abroad (3) The London study abroad trip provide students with first-hand exposure to the center of the excess and surplus lines market, Lloyds. See the RMI department for specific requirements.
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RUSSIAN COURSES (RUS)			
RUS 1101	Introductory Russian I (3) Introduction to the Russian language.	RUS 1102	Introductory Russian II (3) Introduction to the Russian language. <i>Prerequisite: RUS 1101 or permission of instructor.</i>
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SCIENCE COURSES (SCI)			
RMI 4430	Surplus Lines Insurance Operations & Products (3) A study of the excess surplus lines insurance markets as well as the reinsurance sector of the insurance industry. The course covers the formation and classification of these companies, their distribution systems, their regulation, their accounting procedures, and a comparison of these companies to admitted insurers. Special attention is paid to surplus lines insurance products designed for major types of commercial and personal property and liability risks. <i>Prerequisite: RMI 4442</i>	SCI 1110	Exploring the Solar System (3) This course examines each of the major planets; their surfaces, interiors and atmospheres, and why they are all so different. The course also examines the major moons of the planets, any planetary ring systems, and many minor bodies such as comets and asteroids. Other topics covered include the exploration of the solar system with robotic spacecraft. Extra-solar planets, possibilities of extraterrestrial life and the search for extraterrestrial life. <i>Co-requisite: SCI L110</i>
RMI 4440	Corporate Risk Management (3) A study of the analysis and treatment of the risks faced by the business organization. Topics include the assessment and treatment of traditional risks (such as, property, personnel, and environmental risks) and emerging risks (such as, cyber, social media, and supply chain risks). <i>Prerequisite: RMI 4442</i>	SCI L110	Exploring the Solar System Lab (1) Hands-on exercise to study the planets, moons, and planetary motions. Night-time observing of constellations, the Moon and any visible planets. <i>Co-requisite: SCI 1110</i>
RMI 4442	Insurance Operations (3) (capstone) An introduction to the various functions performed within an insurance company and a study of insurance ethics. Topics include insurance regulation, marketing, underwriting, ratemaking, adjusting, reinsurance, and accounting. This course is the capstone course for the concentration. <i>Prerequisites: RMI 3335</i> <i>Corequisite: RMI 3348.</i>	SCI 2233	Physical Science (3) Basic chemistry and physics for non-science majors <i>Co-requisite: SCI L233. Note: Credit does not count toward a major in any science curriculum.</i>
RMI 4465	Insurance Law (3) An introduction to the legal principles underlying insurance contracts and the issuing of insurance contracts, with special emphasis on the U.S. legal system, contract law, property law, tort law, agency law, and employment law. <i>Prerequisite: RMI 3335.</i>	SCI L233	Physical Science Lab (1) Laboratory experiments in basic chemistry and physics. <i>Co-requisite: SCI 2233.</i>
RMI 4478	Employee Benefit Planning (3) The course is designed to provide the student with a foundation of knowledge regarding the design and management of employee benefit plans. Topics include pensions, profit-sharing plans, 401(k) plans, group life and health plans, and flexible benefit programs. <i>Prerequisites: RMI 3335,</i>	SCI 2234	Earth and Space Science (3) Basic astronomy and geology for non-science majors. <i>Co-requisite: SCI L234. Note: Credit does not count toward any major in the sciences.</i>
RMI 4491-92	Guided Independent Research (1 to 3 credit hours per course per semester) Additional information is indexed under Independent Study and Research.	SCI L234	Earth and Space Science Lab (1) Laboratory experiments in basic astronomy and geology. <i>Co-requisite: SCI 2234.</i>
RMI 4493-94	Guided Independent Study (1 to 3 credit hours per course per semester) Additional information is indexed under Independent Study and Research.	SCI 2240	Principles of Astronomy, Stars, Galaxies and Cosmology (3) Basic facts and theories related to astronomical phenomena. <i>Co-requisite: SCI L240.</i>
		SCI L240	Principles of Astronomy, Stars, Galaxies and Cosmology Lab (1) Star and constellation identification and observations using the telescope. <i>Co-requisite: SCI 2240.</i>
		SCI 3335	Physical Geology (3) Constructive and destructive processes which alter the earth. <i>Co-requisite: SCI L335.</i>

- SCI L335 Physical Geology Lab (1-2)**
Laboratory studies of constructive and destructive processes which alter the earth.
Co-requisite: SCI 3335.
- SCI 3365 Principles of Applied Science (3)**
In this course, we will learn the scientific method, and how it applies investigations in science and engineering. Students will learn how to ask well defined questions, propose hypotheses, test hypotheses, and learn on what basis one rejects or accepts a hypothesis. We will go on to see how these methods are applied in the fields of biology, chemistry, physics, and engineering. Finally, we will also see how misapplications of the scientific method leads to questionable pseudoscience.
- SCI 3366 Survey of Electronics Technology (3)**
In this course, students will develop understanding of basic concepts in electronics, including component identification and behavior, dc and ac circuit principles, solid-state devices, and both linear and switching circuits without getting into rigors of mathematics. Students will also learn how digital electronics fed to microprocessor technology. Students will be able to apply these learned concepts in design and analysis of electronics systems.
- SCI 3370 Toxic, Radioactive, & Hazardous Materials (3)**
In this course, students will learn the basic principles of hazardous materials management. The course will be suitable for students with limited scientific background knowledge in chemistry and physics. Students will learn how to classify toxic, radioactive, and hazardous materials and evaluate the dangers associated with them. Students will study current industry practices and learn how to manage hazardous materials in a safe, legal, and economical manner.
- SCI 4440 Travel Study in Comprehensive General Science (1-3)**
Supervised investigation of relevant topics in Comprehensive General Science through travel-study abroad or within the interior of the United States.
- SCI 4450 Science in a Regulatory Environment (3)**
An examination of the applications of Biology, Chemistry, and Physical Sciences for compliance with select environmental regulations.
Prerequisites: Biology, Chemistry or Physical Science.
- SCI 4474 Internship in Science Education (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454.
- SCI 4481 Methods and Materials for the Secondary Teacher (3)**
A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of biology/science materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.
Prerequisite: admission to TEP.
- SCI 4491-92 Guided Independent Research (1 to 4 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- SCI 4493-94 Guided Independent Research (1 to 4 credit hours per course per semester)**
Additional information is indexed under Independent Study and Research.
- SCI 4498 Internship in Comprehensive General Science(1-3)**
Supervised work experience in the biotechnology industry, governmental agency, business, or other working environment in which a student will learn and apply pertinent professional skills.
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- SECONDARY EDUCATION COURSES (SED)**
- SED 4400 Classroom Management (3)**
This course is designed for all secondary and P-12 education majors. The purpose of this course is to establish a foundation of content and application relative to classroom management and discipline, emphasizing reflection, decision making, and integrated teaching/learning strategies. Methodologies utilized will include discussion, lecture, field experience, case studies, problem solving sessions, projects, and research.
- SED 4454 Internship Seminar for Secondary Education (3)**
This course provides seniors an opportunity during internship to examine broad educational issues and concerns, topics on the state and local levels and those of personal interest. The scope of the course ranges from juvenile law, classroom management, professionalism, professional development for teachers and other course topics.
Prerequisite: admission to TEP.
Co-requisite: SED Internship.
- SED 4474 Secondary Internship in Grades 6-12 (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: SED 4454.
- SED 4481 Methods and Materials for the Secondary Teacher (3)**
Teaching methods, selection, organization and use of materials and resources in the secondary school discipline(s). Observation and teaching experiences will be included.
Prerequisites: EDU 3310 and admission to TEP.
- SED 4491-92 Guided Independent Research (1 to 3 credit hours)**
Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.
Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."

SED 4493-94 Guided Independent Study (1 to 3 credit hours)
 Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.
Prerequisites: Junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

SOC 3331 Sociology of the Family (3)
 Analysis of the family as a social institution and as a social group, with emphasis on the impact of the changing society on traditional family functions, courtship, role expectations, child rearing, and family stability. The course will examine changes in work patterns, marriage, divorce, and cohabitation over time including contemporary problems affecting marital relations and family interactions. Race, ethnicity, age, and gender differences will also be addressed.
Prerequisite: SOC 2275.

SOCIOLOGY COURSES (SOC)

SOC 2275 Introduction to Sociology (3)
 Survey of basic sociological concepts and the effect of social phenomena on individuals, groups and institutions. This course will not count toward the required upper level course hours needed for the sociology or social science minor or major.
Prerequisite for all 3000 and 4000 level courses.

SOC 3332 Family Violence (3)
 A course to provide students with an in-depth study of the problems of violence in families including spouse abuse, child abuse, elder abuse, and the dynamics and dangers of violent relationships. The study will examine the root causes of family violence and the devastating, multi-generational effects of violence on its victims and society. Students will study current societal responses to family violence including protection services, treatment programs, legal defense strategies, and current legislation.
Prerequisite: SOC 2275.

SOC 2280 Social Problems in Contemporary Society (3)
 An examination of conditions that are harmful to society. Topics include problems with social institutions, inequality, deviance, and social change.

SOC 3345 Criminology (3)
 Study of crime and its causes and measurements. Topics include various explanations of criminal behavior, typology of crime, criminal justice system, and social relations to crime.
Prerequisite: SOC 2275.

SOC 3300 Social Institutions (3)
 An analysis of several major social institutions, their structural components, processes, and resultant problems. Group interrelations and social change will be emphasized.
Prerequisite: SOC 2275.

SOC 3346 Deviant Behavior (3)
 This course will explore the social meaning and construction of social behavior outside normative boundaries. Deviance is relative social behavior that occurs outside social norms. By the end of this course, students will be familiar with, and think critically about the attitudes, behaviors, and meanings associated with society and social deviance. In addition, students will be introduced to topics related to law, social change, social power, conflict, structure, and culture.
Prerequisite: SOC 2275.

SOC 3301 Collective Behavior and Social Movements (3)
 This course provides an in-depth understanding of the dynamics of collective behavior and social movements and focuses both on domestic and global movements. A variety of social movements and counter movements are considered that span a variety of geographical regions and time periods.
Prerequisite: SOC 2275.

SOC 3351 Sociology Study Abroad (1-3)
 Supervised investigation of relevant topics in sociology through travel study abroad or within the interior of the United States.
Prerequisites: Applicable survey courses and permission of the instructor.

SOC 3305 Visual Sociology (3)
 Visual sociology examines and produces visual perspectives on social life. It allows one to apply the sociological imagination in telling a visual story about social phenomena. Visual sociology utilizes all sorts of visual material in its analysis and methodologies. Hands-on use of smart phones and digital cameras will be utilized for applied class projects.
Prerequisite: SOC 2275.

SOC 3355 Death and Dying (3)
 This course provides an examination of individual and societal attitudes toward death and the dying process. It will include the emotions experienced, cultural variations, theoretical perspectives and institutional relationships.
Prerequisite: SOC 2275.

SOC 3315 Sociology of Popular Music (3)
 Sociological analysis of a very influential and popular music art form, from its origins in the first half of the twentieth century to more contemporary social contests. Examines the roles of race relations, social class, gender, inequalities, region, genre, commercial exploitation and technology in the evolution of popular music.
Prerequisite: SOC 2275.

SOC 3356 Sociology of Aging (3)
 Sociological examination of global social changes precipitated by the demographic phenomenon of the aging of U. S. society and other societies. Addresses the heterogeneity of the older population, their locations, perceptions, and constraints. Issues such as housing, transportation, health care, and death and dying are explored.
Prerequisite: SOC 2275.

SOC 3316 Sociology of Popular Culture and Mass Media(3)
 This course will examine popular culture and mass media and the theoretical frameworks that analyze their force in society. Mass media includes everything from television, film, radio, magazines, newspapers and the countless means of mass communication brought about through the Internet. Studying the mass media and its impact through popular culture is vital to sociologists given their profound influence on culture and social life.
Prerequisite: SOC 2275.

SOC 3357 Sociological Aspects of Human Sexuality (3)
 An examination of the cultural and social components of sexuality including current perspectives on sexuality, sex research and theory, cross-cultural perspectives and sexual diversity, gender issues, sexual relationships, sexual orientations, pregnancy and parenthood, sexually transmitted diseases, sexual victimization, sexuality

SOC 3323 Juvenile Delinquency (3)
 An examination of social, economic, psychological, and physiological determinants of young people's behavior as it concerns family, community, and social worker.

across the life span, and recent social changes affecting sexuality in society.

Prerequisite: SOC 2275.

SOC 3360 Introduction to Qualitative Research Methods (3)

This course will provide students with an overview of qualitative (non-statistical) research methods. It will also familiarize students with the various areas of sociological study in which qualitative methods is preferred to quantitative research and will offer students the necessary training to engage in high-quality qualitative research. Special emphasis will include: participant observation, interviews, and on-line methodologies.

Prerequisite: SOC 2275.

SOC 3370 Society and Environment (3)

This is a course that will focus on the relationship between society and the environment. It will include individual, group (social movements) and institutional impacts on the environment and reciprocal effects.

Prerequisite: SOC 2275.

SOC 3375 Research Methods in Sociology (3)

The purpose of this course is to provide a structured opportunity to review, learn, and apply sociological research methods – both qualitative and quantitative methodologies. Using primarily sociological examples, exercises, and theory, each student will develop a research question and a general research design report.

Prerequisite: ENG 1102 or ENG 1104, SOC 2275

SOC 3376 Sociological Statistics (3)

A detailed description of what sociologists do with the information they gather. Qualitative and quantitative data from sociological examples are discussed. Particular attention is given to descriptive and inferential statistics, the relationship between research and policy, evaluation research, and research ethics.

Prerequisite: SOC 2275, STAT 2210 or equivalent

SOC 3380 Sociological Social Psychology (3)

A survey of Social Psychology from a sociological perspective. Emphasis is placed on classic topics such as the self-concept, the process of socialization, symbolic interactionism and the social construction of reality, as well as contemporary topics such as small group dynamics, power, social exchange and collective behavior.

Prerequisite: SOC 2275.

SOC 4406 Urban Sociology (3)

Historical, physical, economic, and social evolutions of urbanized areas. Emphasis on contemporary urban problems with implications for policy and planning.

Prerequisite: SOC 2275.

SOC 4408 Rural Sociology (3)

A study of rural society, its organization, agencies, institutions, population trends and composition, patterns of settlement, social processes and change in character.

Prerequisite: SOC 2275.

SOC 4409 Political Sociology (3)

An overview of politics and political systems from earliest times to the present with some emphasis on democratic systems in the U. S. and other modern countries.

Prerequisite: SOC 2275.

SOC 4411 Population and Society (3)

This course provides an exciting overview of how to analyze and think about changing population trends in the U.S. as well as around the world. Students will learn how to relate contemporary and pressing problems such as migration, population growth, fertility, death rates, and other population changes to current social and economic policy debates (e.g., funding for Social Security, education, healthcare, etc.). In this way, students can see the true impact of

how population issues affect our society.

Prerequisite: SOC 2275.

SOC 4413 Sociology of Race and Ethnicity (3)

This course explores the dynamics of race and ethnicity from a sociological perspective. Students will be introduced to the major sociological concepts and issues concerning racial and ethnic identity, intergroup relations, prejudice, discrimination, racism, immigration, and multiculturalism, including current trends.

Prerequisite: SOC 2275.

SOC 4421 Social Inequality (3)

This course examines the structure of social inequality both in the U.S. and in the international context. It reviews theories of inequality and also explores empirical data on stratification both domestically and globally. It also examines how we can try to achieve more social equality and social justice both nationally and globally.

Prerequisite: SOC 2275.

SOC 4430 Sociology of Religion (3)

An examination of the social institution of religion. The course will discuss modes of worship, the relationship between various religious systems and other aspects of society, the categorization of religious groups into cults, sects, denominations and ecclesia, and the rise of secularization in the 21st Century.

Prerequisite: SOC 2275.

SOC 4434 Sociology of Gender (3)

Provides an analysis of the conceptualization of gender with a focus on the methods of studying gender, historical perspectives on gender, biological and social bases of gender, and how gender intersects with other stratification systems within societies globally. Using a multicultural perspective, special emphasis is placed on how gender is manifested in the family as well as other major social institutions.

Prerequisite: SOC 2275.

SOC 4444 The Sociology of Cinema (3)

This course is designed to critically examine sociological issues within American Society via the lens of cinema.

Prerequisite: SOC 2275

SOC 4445 Trends in Globalization (3)

The concept of “globalization” explores issues of social, cultural, political, and economic connectivity that are taking place between societies (of people) on our planet. This course examines the historical foundations and current trends of globalization. It also explores the opportunities and constraints that globalization brings to citizens throughout the world.

Prerequisite: SOC 2275.

SOC 4446 Sociology of Education (3)

This course provides an overview of the theories, methods and issues in the sociology of education today. Issues include text censorship, school and class size, race and gender inequalities, violence in schools, etc. Classroom activities will also explore various social influences on education and different learning modalities.

Prerequisite: SOC 2275.

SOC 4451 Peace, Conflict and Human Rights (3)

Sociological analysis of peace, conflict and human rights, with a focus on the last 100 years. Emphasis will be placed on non-violent struggles at the nation-state level internationally. The role of ethnic and religious affiliations in current war and conflict at home and abroad will also be examined.

Prerequisite: SOC 2275.

SOC 4456 Gerontology (3)

Gerontology is the study of the process of human aging in all its many aspects: Physical, psychological, and social. There is a specific

	emphasis on important elements of aging, such as socialization, family interaction, retirement, physical and psychological aging, and perceptions of older persons in contemporary society. <i>Prerequisite: SOC 2275.</i>		<i>applicant's major or minor field. Also see index for "Independent Study and Research."</i>
SOC 4459	Sociology of Health, Medicine and Illness (3) The sociological perspective applied to medicine. Topics include changing ideas of disease causation, the role of practitioners and patients, the institutional setting, differential delivery of health services, differential patterns of morbidity and mortality based on age, gender, race and socio-cultural variables, and the politics of health. <i>Prerequisite: SOC 2275.</i>	SOC 4495	Selected Topics (3) Designed as a vehicle for the exploration of topics of current interest within the major discipline of sociology. <i>Prerequisite: SOC 2275.</i>
SOC 4462	Applied Sociology (3) This course will provide an overview of applied sociology. <i>Prerequisite: SOC 2275.</i>	SOC 4498	Sociological Theory (3) A survey of the major theorists in sociology, emphasizing those who made critical contributions influencing the sociology discipline and beyond. In addition, the course will also explore contemporary theorists' contributions <i>Prerequisite: SOC 2275.</i>
SOC 4465	The Sociology of Sport (3) An examination of the sociological perspective of sport as an institution. Particular emphasis is placed on the impact of sport on the individual, small groups, other institutions, and society. <i>Prerequisite: SOC 2275.</i>	SOC 4499	Professional Seminar in Sociology (3) In this course, the senior-level sociology student prepares for the transition to graduate school/career. The student explores himself/herself as a person and as a sociologist in an effort to choose a fulfilling career path. In addition to career exploration, students conduct a senior project in an area of interest consistent with their academic program. <i>Prerequisite: SOC 3375, SOC 3376, SOC 4498, Senior Status or permission from instructor.</i>
SOC 4489	Internship in Sociology (3) Applications of skills and knowledge of sociology in government agency, foundation, public service institution or similar situation under the supervision of a faculty member. <i>Prerequisite: Sociology Major, SOC 2275; junior/senior classification; 3.0 cumulative GPA, 3.5 major GPA; consultation with department Internship Coordinator.</i>	<hr/> SPECIAL EDUCATION COURSES (SPE) (COLLABORATIVE TEACHER) <hr/>	
SOC 4490	Internship in Sociology (3) Applications of skills and knowledge of sociology in government agency, foundation, public service institution or similar situation under the supervision of a faculty member. <i>Prerequisite: Sociology Major, SOC 2275; junior/senior classification; 3.0 cumulative GPA, 3.5 major GPA; consultation with department Internship Coordinator.</i>	SPE 3301	Advanced Topics in Disabilities (3) The course provides special education teacher candidates with a deeper understanding of the process in referring, testing, and identifying students with disabilities. Teacher candidates will learn and demonstrate how to develop an Individualized Education Plan (IEP) for qualifying students. Special Education teacher candidates will demonstrate data-based decision making concerning Least Restrictive Environments, minutes of service, appropriate accommodations, modifications, and curricular adjustments
SOC 4491-92	Guided Independent Research (1 to 3 credit hours per course per semester) Undergraduate research with attention to critical evaluation of research techniques, methods and procedures. <i>Prerequisites: SOC 2275, Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."</i>	SPE 3302	Introduction to Moderate/Severe Disabilities (3) This course presents an overview of the social, emotional, physical, and learning characteristics of children and youth with moderate and severe disabilities. Emphasis is placed on information regarding the definition, prevalence, and etiology of moderate and severe disabilities as well as information pertaining to the classification, assessment, placement, instruction, and programming needs and services for individuals with moderate and severe disabilities. <i>Prerequisite: admission to TEP.</i>
SOC 4493-94	Guided Independent Study (1 to 3 credit hours per course per semester) Supervised study through field and laboratory projects, guided readings, creative endeavors or achievement of specific skills. <i>Prerequisites: SOC 2275, Junior or senior standing, with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the office of University Records. Guided independent research may be taken only in the</i>	SPE 3303	Teaching Students with Mild Disabilities (6-12) (3) This methods course for prospective special-ed 6-12 collaborative teachers emphasizes methods and materials for adolescents with mild disabilities and provides a cross-category focus. Moreover, methods such as cognitive learning strategies are examined in depth. <i>Prerequisites: SPE 3349 and admission to TEP.</i>
		SPE 3304	Teaching Students with Moderate/Severe Disabilities (6-12) (3) This course emphasizes a variety of educational strategies for secondary students with moderate and severe disabilities. Special emphasis is placed on the post-secondary adjustment of students with complex needs. <i>Prerequisites: SPE 3302 and admission to TEP.</i>
		SPE 3305	Vocation and Transition Planning for Secondary Students with Disabilities (3) This course emphasizes authentic, evidence-based practices related to vocation and transitional services a student with special education services will receive in the secondary school setting. Special education

teacher candidates will learn to understand and explain the laws surrounding the requirements of transition planning within the IEP, along with writing vocation and transitional goals. Teacher candidates will demonstrate how to work with state vocational rehabilitation services, families, appropriate additional personnel, and the community.
Prerequisites: SPE 3303, 3304, 3340, and admission to TEP.

SPE 3306 Teaching Students with High Incidence Disabilities (3)

The course requires special education teacher candidates to learn about and demonstrate proficiency with specifically designed instruction for students with high incidence disabilities. Teacher candidates will demonstrate skills in writing specifically designed instruction specific to supporting IEP goals. The teacher candidates will then identify and develop key components of a functional behavior assessment (FBA) and a Behavior Intervention Plan (BIP) to support behavior struggles with identified students. The course must be completed with a special education field experience.

Prerequisite: Admission into TEP

SPE 3307 Strategies Instruction (3)

This course bridges the gap between research and practice and extends knowledge of specific methods for teaching students K-6 with mild disabilities. The premise of this course is that strategic learning is critical for many students with mild disabilities in order that they may achieve academic success and function at the level of their potential.

Prerequisite: admission to TEP.

SPE 3309 Teaching Students with Low Incidence Disabilities (3)

The course requires special education teacher candidates to demonstrate competence in the understanding and application of evidence-based, specifically designed instruction (SDI) for students with low incidence disabilities. Teacher candidates will engage with and demonstrate the use of augmentative communication devices to support communication and academic language skills. Special education teacher candidates will learn to teach and support socially-normed social behavior. The class also focuses on community-based instruction, which promotes generalization. Many students with Low Incidence Disabilities require medication support and teacher candidates will learn to identify and support medically fragile students. Teacher candidates will also acquire skills in planning and learning supports for paraprofessionals.
Prerequisite: admission to TEP.

SPE 3340 Diverse Learners (3)

The course provides general and special education teacher candidates with an overview of exceptional students found within current general and special education classrooms. Examples of exceptional students are 1) receiving services through IDEA, 2) identified as at-risk for academic and/or behavioral failure, 3) outside of the social majority, or 4) struggling with social and emotional risk factors. The class introduces teacher candidates to key terminology and procedures in IDEA and Civil Rights Laws.

SPE 3362 Policies and Procedures in Special Education (3)

This course is an advanced undergraduate course for prospective special education collaborative teachers K-6. This course outlines the legal responsibilities and role of the special education teacher in the

procedures and services of special education. The assessment/program planning program is emphasized.

Prerequisite: admission to TEP.

SPE 4407 Inclusive Strategies (3)

The course teaches skills required for the creation of lessons using universal design, differentiated instruction, and specifically designed instruction. Teacher candidates also take an in-depth look into collaborative, coteaching practices between special and general education teacher candidates. Teacher candidates will demonstrate their understanding of writing co-taught lesson plans based on their field experience. To support collaborative success, teacher candidates will learn and practice conflict resolution skills.

Prerequisite: Admission to TEP.

SPE 4445 Educational Evaluation of Exceptional Children (3)

This course is designed to provide the pre-service teacher with knowledge and skills in the selections, evaluation, administration, scoring and interpretation of standardized instruments in the areas of academic achievement, diagnostic tests, adaptive behavior, and behavior rating scales. Students will demonstrate the utilization of test results for the development of an individualized education plan, individualized family service plan, and learning outcomes for the general education classroom.

Prerequisite: admission to TEP.

SPE 4454 Internship Seminar (3)

The course supports teacher candidates (K-6 and 6-12) as they engage in teacher preparation assessment, which can be evaluated either at the national or state level. Teacher candidates also, participate in interview readiness, job searches, and application for an Alabama Teaching License. Classroom management, internship, and other beginning teacher topics will be discussed in the class.

Corequisite: SPE 4465 or SPE 4474

SPE 4465 Collaborative Teacher (6-12) Internship (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in grades 6-12 Special Education/Collaborative teaching field. The Professional Internship Program provides the teacher candidate with the opportunity to leader large and/or small group instruction while assuming the role of the lead teacher. Teacher candidates, while leading, receive coaching and supervision from the mentor teacher and university supervisor. The period of supervision lasts for one full semester. The teacher candidate must demonstrate skills in relationship to national, state, and local standards.

Prerequisite: Completion of all TEP required classes
Corequisite: SPE 4454

SPE 4474 Collaborative Teacher K-6 Internship (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in the K-6 Special Education/Collaborative teaching field. The Professional Internship Program provides the teacher candidate with the opportunity to leader large and/or small group instruction while assuming the role of the lead teacher. Teacher candidates, while leading, receive coaching and supervision from the mentor teacher and university supervisor. The period of supervision lasts for one full semester. The teacher

candidate must demonstrate skills in relationship to national, state, and local standards.

Prerequisite: Completion of all TEP required classes

Corequisite: SPE 4454

SPE 4491-92 Guided Independent Research (1 to 3 credit hours)

Undergraduate research with attention to critical evaluation of research techniques, methods and procedures.

Prerequisites: Junior or senior standing with a minimum overall GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Office of University Records. Guided independent research may be taken only in the applicant's major or minor field. Also see index for "Independent Study and Research."

SPE 4493-94 Guided Independent Study (1 to 3 credit hours)

Supervised study through field or laboratory projects, guided readings, creative endeavors or achievement of specific skills.

Prerequisites: Junior or senior status, permission of guiding professor, approval of department chair and the dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which study is to be undertaken. May not be used to repeat a course for which a grade of D or below has been earned. Also see index for "Independent Study and Research."

SPANISH COURSES (SPN)

Note: For additional information, see Placement in Academic Courses.

SPN 1141 Introductory Spanish I (3)

Introduction to the Spanish language and cultures.

SPN 1142 Introductory Spanish II (3)

Introduction to the Spanish language and cultures.
Prerequisite: SPN 1141 or permission of instructor.

SPN 2241 Intermediate Spanish I (3)

Development of basic language skills in Spanish.
Prerequisite: SPN 1142 or permission of instructor.

SPN 2242 Intermediate Spanish II (3)

Review of grammar concepts with introduction to the cultures of Spain, the Caribbean, Mexico and the United States
Prerequisite: SPN 1142 or permission of instructor.

SPN 3328 Legal Spanish (3)

Practical Spanish for the legal and law enforcement professions
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 3330 Business Spanish (3)

Practical Spanish for the business and public service professions
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 3332 Spanish Grammar and Composition (3)

Formal study of Spanish grammar and written composition.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 3333 Spanish Comprehension and Conversation (3)

Developing listening and speaking skills with emphasis on dialectal differences.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 3335 Medical Spanish (3)

Practical Spanish for the medical and health-related professions
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 3350 Spanish Culture on Location I (3-TBA)

Local orientation followed by study in a Spanish-speaking environment.
Prerequisite: Permission of instructor.

SPN 3351 Spanish Culture on Location II (3-TBA)

Local orientation followed by study in a Spanish-speaking environment.
Prerequisite: Permission of instructor.

SPN 3370 Selected Topics in Spanish (3)

Selected topics generally not covered in other Spanish courses. May be repeated for credit.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 4448 Peninsular Spanish Literature (3)

Selected authors, periods, or genres in the literature of Spain.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 4449 Latin American Literature (3)

Selected authors, periods, or genres in the literature of Latin America.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 4451 Peninsular Spanish Civilization (3)

Geography, history, cultural achievements, and institutions of Spain.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 4452 Latin American Civilization (3)

Geography, history, cultural achievements, and institutions of Latin America.
Prerequisite: SPN 2241 and SPN 2242 or permission of instructor.

SPN 4491-92 Guided Independent Research (1 to 3 credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

SPN 4493-94 Guided Independent Study (1 to 3 credit hours per course per semester)

Additional information is indexed under Independent Study and Research.

SOCIAL SCIENCE COURSES (SS)

SS 2220 Introduction to Social Science

An introduction to the study of society approaches its study from a common-sense perspective, rather than a formalistic perspective more common in social science. Students will see how seemingly diverse disciplines intermingle and connect to one another—anthropology and economics, for example. The goal of this course is to teach students critical thinking and problem-solving skills that will allow them to approach social issues in an objective and informed way.

SS 3350 Social Science Study Abroad (1-3)

Supervised investigation of relevant topics in social sciences through travel study abroad or within the interior of the United States.
Prerequisites: SS 2220 and permission of the instructor.

SS 3375 Research Methods in the Social Sciences (3)

Principles of pure and applied research for the social sciences. Special emphasis is given to the types of research methods employed by social scientists including survey techniques, field research, quasi-experimental designs and analytical procedures

currently used in the social sciences.
Prerequisite: ENG 1102 or equivalent, SS 2220

SS 3376

Social Science Statistics (3)

A detailed description of what social scientists do with the information they gather. Particular attention is given to descriptive and inferential statistics, the relationship between research and policy, evaluation research, and research ethics.

Prerequisite: STAT 2210 or equivalent.

SS 4450

Selected Topics (3)

Designed as a vehicle for the exploration of topics of current interest within the major discipline of social science.

Prerequisite: SS 2220

SS 4474

Internship in Secondary Social Science Education (9)

The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.

Prerequisite: admission to TEP.

Co-requisite: SED 4454.

SS 4481

Methods and Materials for the Secondary Teacher (3)

A survey of teaching methods and materials appropriate for teaching in the content areas for grades 6-12. Topics addressed will include teacher evaluation in the public schools, collaboration with special education teachers, and lesson planning formats. In addition, teaching methods, selections organization and use of history/social science materials for grades 6-12 will be covered in detail. A professional laboratory experience is included in this course.

Prerequisite: admission to TEP.

SS 4489-90

Internship in Social Science (3)

Application of skills and knowledge of social science in government agencies, public service institutions, or similar situations under the supervision of a faculty member.

Prerequisite: Social Science major, SS 2220; junior/senior classification; 3.0 cumulative GPA, 3.5 major GPA; consultation with department Internship Coordinator.

SS 4493-4494

Guided Independent Study (1-3)

Supervised study through field and laboratory projects, guided readings, creative endeavors or achievement of specific fields.

Prerequisites: Junior or senior standing, with a minimum GPA of 3.0, permission of guiding professor, approval of department chair or dean. A written request is to be submitted to the department chair at least two weeks in advance of the term in which the study is to be undertaken. It may not be used to repeat a course for which a grade of D or below has been earned. Application forms are available in the Departmental Office. Guided independent study may be taken only in the applicant's major or minor field.

SS 4498

Social Science Theory (3)

A survey of the major theorists in the social sciences, emphasizing those who made critical contributions influencing the several social science disciplines and contemporary theorists whose works have an interdisciplinary element.

Prerequisite: SS 2220

SS 4499

Professional Seminar in the Social Sciences (3)

In this course, the senior-level social science student prepares for the transition to graduate school/career.

The student explores himself/herself as a person and as a social scientists in an effort to choose a fulfilling career path. In addition to career exploration, students conduct a senior project in an area of interest consistent with their academic program.

Prerequisites: SS 3375, SS 3376, and either SS 4498, senior status or permission of the instructor

STATISTICS (STAT) COURSES

STAT 2210

Introductory Statistics (3)

A beginning course in statistics intended for students in a wide variety of fields of study. Course topics include descriptive statistics, normal distribution, correlation and regression, basic concepts of probability, binomial distribution, sampling distribution, confidence intervals and hypothesis testing for mean(s) and proportion(s). Students also have the opportunity to analyze data sets using Statistics software.

Prerequisite: Appropriate score on mathematics placement test, advanced placement, or a grade "C" or better in MTH 1105.

STAT 3350

Statistical Methods and Computations (3)

This course is designed to provide students with a foundation in statistical methods, including data exploring and strategies in sample surveys, estimation and testing hypotheses of means and variances, analysis of variance, regression analysis, contingency tables. These concepts are taught with heavy emphasis on statistical computing software and real-world datasets. Students will learn basic skills of statistical packages that are widely used in business, industry, government, and research.

Prerequisite: A grade of "C" or better in MTH 1112.

STAT 3355

Survey Sampling (3)

Topics include sampling frames, questionnaire design, simple random, systematic, stratified, and cluster sampling, comparing domain means, contingency table analysis.

Prerequisite: STAT 2210.

STAT 4451

Mathematical Statistics I (3)

Probability theory, sample spaces, random variables, mutual exclusion, independence, conditional probability, permutations and combinations, common discrete and continuous distributions, expected value, mean, variance, multivariate distributions, covariance, Central Limit Theorem.

Prerequisite: MTH 1125 and STAT 2210.

STAT 4452

Mathematical Statistics II (3)

Fundamentals of the theory of statistics, the Central Limit Theorem, point estimation, sufficiency, consistency, hypothesis testing, sampling distributions, confidence intervals, linear regression models, interpretation of experimental results, Bayesian Estimation.

Prerequisite: STAT 4451.

STAT 4456

Mathematics of Finance (3)

The fundamental concepts of financial mathematics and how these concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in the following: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and valuing contingent flows.

STAT 4459

Regression Analysis (3)

Topics include simple linear regression, inferences in regression analysis, techniques of multiple regression and model building, ANOVA as regression analysis, analysis of covariance, model selection and diagnostic checking techniques, nonlinear regression, and logistic regression.

Computations are an integral part of the course and

- will involve the use of SAS and R statistical software.
Prerequisite: STAT 3350.
- STAT 4464 Multivariate Analysis (3)**
 Possible topics to be covered include multivariate descriptive statistics, multivariate normal distribution, analysis of covariance, MANOVA, multivariate regression, principal components, discriminant analysis, cluster analysis, factor analysis.
Some familiarity with R and SAS is expected. Prerequisite: STAT 4451, and STAT 3350.
- STAT 4465 Categorical Data Analysis (3)**
 In recent years, the use of specialized statistical methods for categorical data has increased dramatically, particularly for applications in the biomedical and social sciences. The course gives an introduction to analyzing categorical data. Principal topics include: contingency tables, generalized Linear Models, log-linear models, logistic regression, and models for matched pairs. Two statistical software packages SAS and R will be used appropriately throughout the course.
Prerequisite: STAT 3350.
- STAT 4466 Statistical Data Mining (3)**
 Data Mining is a fast growing interdisciplinary field between Statistics and Computer Science due to the emergence of massive dataset. This course covers an information extraction activity whose goal is to discover hidden facts from large data warehouses. A number of data mining tasks including description, classification, selection, estimation, prediction, and affinity grouping and clustering will be discussed. Also, students will learn how to use data mining software to perform data mining functionalities.
Prerequisite STAT 3350.
- STAT 4467 Experimental Design (3)**
 Fundamental principles of designing and analyzing experiments with application are considered. The concepts of experimental unit, randomization, blocking, replication, error reduction and treatment structure are introduced. The design and analysis of completely randomized, randomized complete block, incomplete block, Latin square, split-plot, repeated measures, factorial and fractional designs will be covered.
Prerequisite: STAT 3350.

SOCIAL WORK COURSES (SWK)

- SWK 2250 Introduction to Social Work (3)**
 The student is introduced to the profession of social work. Class focuses on the knowledge, skills and values essential for effective practice. Each student will be provided an opportunity to have direct contact with a practicing social worker.
- SWK 2260 Introduction to Non-Profit Organizations (3)**
 This seminar in non-profit organizations is designed to aid helping professional students develop a basic understanding and knowledge of the history, operation, and structure of non-profit organizations. Will include management, grant writing, and leadership roles.
- SWK 2280 Social Work Research I (3)**
 Introduction to statistical analysis concepts and principles necessary for understanding research reports and for the interpretation of data. Use of microcomputer statistical programs in the analysis of univariate, bivariate, and multivariate data including parametric and non-parametric analysis techniques. Topics include descriptive techniques, averages and measures of variation, tests of statistical significance, correlation and regression, and analysis of variance.
Prerequisite: MTH 1110 or 1112 and IS 2241.
- SWK 2281 Social Work Research II (3)**

- Introduction to evidenced based assessment and case management to include understanding and using the current DSM and other assessment materials. Introduction to writing assessments based on standardized criteria to include a treatment plan and preliminary measurement of goals. The use of research journal articles and technical and research reports generated by corporate and governmental agencies will be demonstrated.
Recommend taking HS 2250 prior to this course.
- SWK 3300 US Justice and the Helping Profession(al) (3)**
 This course will explore historical and current issues in the US justice system that have resulted in the marginalization of disadvantaged populations, who typically enter into this system. It will provide an overview of the US justice system and how it interests with human services and social work. Specifically, the focus will be an exploration of the juvenile and adult justice systems as well as policies and strategies shown favorable in the promotion of social justice and advocacy on behalf of those within the justice system. This class is designed for the student who has a desire to understand how helping professions (social work, human services, rehabilitation) and the US justice system are relevant to each other. This course is advantageous with or without future plans of working in the criminal justice system.
- SWK 3301 Children and Family Services (3)**
 Child welfare services from both the public and private sectors of social work practice will be assessed, emphasizing the availability and effectiveness of services for children and their families in the United States. The historical development of the child welfare movement will be examined.
- SWK 3302 Social Service Resources (3)**
 Examination of social welfare services and institutions, public and private, to include historical development, philosophical basis, structure, and function.
- SWK 3303 Crisis Intervention (3)**
 Case management techniques for dealing with crisis. Crisis theory, stress management, and time-limited intervention will be examined.
- SWK 3304 Social Work Practice In Health Settings (3)**
 A survey of the use of professional social work in a variety of health care delivery settings. Exposure to basic medical terminology needed by social workers. Overview of the social aspects of disease, illness, and disability.
- SWK 3320 Human Behavior In the Social Environment II (3)**
 An examination of the social dynamics of discrimination and oppression and particularly how discriminatory and oppressive environments have potential for negatively affecting biopsychosocial growth and development.
- SWK 3330 Social Work with Military Families (3)**
 This course is designed as an elective for undergraduate students who wish to increase their knowledge and skills for practice with military personnel, Veterans, and their families. Students will learn about the role of social work within the military and in the Department of Veterans Affairs in meeting the needs of active duty service members, National Guard and Reserve members, Veterans, and their families. Students will develop a working understanding of the history of military social work, aspects of military culture that they will need to know in order to be able to engage and intervene with the social and mental health needs and issues facing this ethnically and culturally diverse population.

- SWK 3340 Social Policy and Planning (3)**
Exploration of the social policy formulation process and the building of analysis skills in the evaluation of social policy and programs. The impact of political, economic, and social forces is a focal point and the process of incrementalism in implementation is examined.
- SWK 3375 Practicing Cultural Competency (3)**
This course provides students with an understanding and appreciation of cultural diversity, ethnic and gender sensitivity, as well as ageism, in social work practice with a variety of populations is highlighted.
- SWK 3390 Social Work with Individuals and Families (3)**
The melding of the systems and developmental perspectives and the problem-solving approach as a basis for generalist social work practice with individual and family systems. Assessment, intervention, and evaluation skills are developed.
Prerequisite: admission to the professional social work curriculum or permission of instructor.
- SWK 4471 Social Work with Groups (3)**
The student learns to identify group processes and use these in assessment and intervention with the group as a client system. Evaluation of practice is extended to group settings.
Prerequisite: SWK 3390. Co-requisite: SWK 4480.
- SWK 4472 Social Work with Organizations and Communities (3)**
Assessment and intervention with the community or organization as a client system. Skill building in evaluation of one's own practice continues.
Prerequisite: SWK 3390.
- SWK 4480 Pre-Practicum Seminar (3)**
This course will evaluate the student's ability (knowledge, values and skills) required to begin Social Work Field Experience. The class will focus upon areas essential for competent social work practice. In addition, the student will engage in resume development, interviewing skills and other exercises necessary to secure an approved Field placement. Rules and legislation governing social works on the state and federal level will be reviewed.
Prerequisite: Completing SWK Major Requirements.
- SWK 4481 Social Work Practicum (12)**
Placement in a social service agency which provides the opportunity to practice and develop beginning professional social work skills under the joint supervision of a faculty and an agency supervisor. Includes a weekly seminar plus a minimum of 500 hours in a particular agency setting.
Prerequisites: Social work major in good standing, SWK 4480. Practicum site must be approved by instructor during SWK 4480.
- SWK 4482 Social Work Practicum II (6)**
Placement in a social service agency which provides the opportunity to practice and develop generalist practice social work skills under the joint supervision of a faculty and an agency supervisor. Includes a weekly seminar plus a minimum of 200 contact hours in a particular agency setting. This is the first of two required Practicum courses.
Prerequisite: Social Work Major in good standing. Practicum must be approved by instructor in 4480. Admission to the professional Social Work curriculum.
- SWK 4483 Social Work Practicum III (6)**
Placement in a social service agency which provides the opportunity to practice and develop generalist practice social work skills under the joint supervision of a faculty and an agency supervisor. Includes a weekly seminar plus a minimum of 200 contact hours in a particular agency setting. This is the second of two required Practicum courses. The student must complete this course in the same agency as SWK Practicum II.
Prerequisite: Must complete Social Work Practicum II.
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- THEATRE COURSES (THE)**
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- THE 1115 Performance and Production Practicum I (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity. May be repeated for credit.
- THE 1130 Introduction to Theatre (3)**
An introduction to theatre as a fine art and as a vital part of our western culture, the course focuses on the aspects of audience, production, and performance. It is designed for the student who wishes to gain a fundamental understanding and an appreciation of the theatrical arts in our society.
- THE 1132 Introduction to Film (3)**
A historical and critical perspective of film production from North America, Europe, and Asia through which modern film production is interpreted, analyzed, and discussed. It is designed for the student who wishes to gain a fundamental understanding and an appreciation of film and its impacts on our culture and society.
- THE 1150 Creative Habit (1)**
Part of the introductory learning community established at the entry level for incoming theatre and dance students. Centering on Twyla Tharp's book *The Creative Habit*, the learning community examines strategies for successful studies in Theatre and Dance.
Co-requisites: THE 1130, TROY 1101 and permission of department.
- THE 1160 Audition and Portfolio Techniques (1-2)**
This course provides an introduction to the practices and tools in the development of a professional audition, interview, and portfolio, and offers guidance in refining and presenting a professional self-image.
Prerequisite: THE 1150, or the permission of instructor.
- THE 2215 Performance and Production Practicum II (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity.
Prerequisite: THE 1115. May be repeated for credit.
- THE 2216 Performance and Production Practicum III (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity. May be repeated for credit.
Prerequisite: THE 2215.
- THE 2211 Theatre for Youth (1-3)**
Provides introductory exposure to the field of Theatre for Young Audiences, including hands-on experience in skills related to performance, production, literature, creation and development, and pedagogical implications and opportunities.

- THE 2221 Scenic Techniques (2-3)**
A study of standard scenic practices and equipment for the theatre.
Prerequisite: THE 2271
- THE 2230 Performance Studio (1-3)**
This course provides a studio structure offering opportunities for student performance and production as well as development of new works, with emphasis on audience response and discussion. May be repeated for credit.
- THE 2232 Musical Theatre Repertoire (2-3)**
This course offers students opportunities to explore the musical theatre canon through historical context, vocal stylization, and performance techniques.
- THE 2233 Survey of the Broadway Musical (3)**
Traces the origins and surveys major works of Broadway musical theatre repertoire.
- THE 2234 Acting the Song (1-3)**
Students apply theatre performance techniques through rigorous individual and group study, with emphasis on good performance habits, storytelling, movement, listening and responding, navigation vocal production, song analysis, stage presence, and development of ensemble.
- THE 2245 Stagecraft Lab (1-3)**
Stagecraft Lab provides the basic elements of theatrical production through participation in acting (actors selected through audition), management, and/or technical theatre, including scenery, props, lighting, sound, costumes, makeup, business and publicity.
- THE 2251 Voice and Diction (2)**
Study of individual and group practice in the effective use and control of the mechanics of oral delivery with a focus on the “professional dialect,” the general American dialect and/or the standard dialect. Includes use of the International Phonetic Alphabet.
- THE 2271 Fundamentals of Scenery and Lighting (2-3)**
A study of standard technical practices for the theatre within the scenery and lighting production areas.
- THE 2272 Fundamentals of Costumes and Makeup (2-3)**
A study of standard technical practices for the theatre within the costume and makeup production areas.
- THE 2291 Dramatic Literature I (3)**
A continual, enthusiastic, and serious reading of plays is essential to the developing theatrical artist. Students will read a carefully chosen variety of works for the stage and study their historical context/impact, critical merit, and dramatic structure.
- THE 3300 Fundamentals of Acting (2-3)**
An introduction to the basic principles, terminology, and disciplines of the actor.
- THE 3301 Acting I (2-3)**
A study of basic principles, terminology, and disciplines of the actor, including relaxation, concentration, movement, and characterization.
- THE 3302 Costume Techniques (2-3)**
A study of the techniques of costume construction, including methods of drafting patterns, building and/or modifying costumes, and the application of arts and crafts.
Prerequisite: THE 2272
- THE 3303 Makeup Techniques (1-2)**
A study of the theory and techniques of stage makeup. Includes makeup for theatre, film, and video.
- THE 3304 Lighting Techniques (2-3)**
A study of stage lighting equipment and lighting practices.
Prerequisite: THE 2271
- THE 3313 Creative Drama (2)**
Study and application of the techniques of creative drama and children’s theatre.
- THE 3315 Performance and Production Practicum IV (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity. May be repeated for credit.
Prerequisite: THE 2216.
- THE 3316 Acting II (3)**
A study of advanced concepts of acting, focusing on script analysis and character development along with further study of voice, movement, and scene dynamics.
Prerequisite: THE 3301 or permission of instructor.
- THE 3321 Scenic Design (3)**
The principles and techniques of drafting and designing in a variety of theatrical spaces.
Prerequisite: THE 2221 or permission of the instructor.
- THE 3329 Special Topics in Theatre (1-3)**
Examination of selected topics in theatre not included in the established curriculum. Content may be out of a historical, thematic, technological, design, or specialized performance nature.
May be repeated for credit.
- THE 3330 Special Topics in Theatre (1-3)**
Examination of selected topics in theatre not included in the established curriculum. Content may be of a historical, thematic, technological, design, or specialized performance nature.
May be repeated for credit.
- THE 3331 Costume Design (3)**
A study of the theory, principles, and techniques of costume design applied to a series of theatrical projects.
Prerequisite: THE 3302
- THE 3335 Movement I (2)**
This course centers on the development of physical awareness and expressiveness building an understanding for a psychophysical approach to acting. The course examines personal body use and employs a variety of exercises, techniques, and theories of movement training designed to improve an actor’s awareness of impulse and expressiveness of ideas.
- THE 3336 Acting III (3)**
Acting III is an in-depth exploration of advanced concepts of acting focusing on script analysis, character development, period styles, dialects, freedom of movement, and a professional work ethic. Students will also explore ways to find opportunities in film, television, major American markets, and graduate schools. In addition, emphasis will be placed on student’s ability to instruct and coach other actors.
Prerequisites: THE 3301, THE 3316 or permission of the instructor
- THE 3344 Lighting Design (3)**
A study of the principles of lighting design and equipment applications. Also covers drafting techniques for lighting.
Prerequisite: THE 3304 or permission of the instructor.
- THE 3345 Advanced Stagecraft Lab (1-3)**
A continuation of Stagecraft Lab designed for the upper level student.
Prerequisites: THE 2245 rotation or permission of instructor.

- THE 3346 Educational and Psychology Assessment in Fine Arts (3)**
This course provides a study of measurement and evaluation techniques for the secondary and P-12 teacher. Emphasis will be placed on the selection, evaluation, administration, scoring and interpretation of selected measures of student performance, achievement and behavior. The student will demonstrate skills in utilizing measurement data to plan appropriate learning activities for students.
- THE 3350 Script Analysis (2-3)**
Focuses on the nature of the text, playwright's purpose, dramatic structure, and style. The course will examine how the actor, director, designer, and technician approach a play and how that understanding translates into the staging.
- THE 3352 Sound Techniques (2)**
A study of digital and analog recording techniques, recording equipment, and application.
- THE 3354 Rendering Techniques for the Theatre (2)**
A study and application of traditional and experimental techniques for theatrical rendering, including watercolor, markers, pastels, pencils, and other media.
- THE 3360 Playwriting I (3)**
This course is an introductory class for creative students interested in writing plays. The course is designed to teach students to create with the basic building blocks of dramatic structure, character development, good dialogue, strong storytelling, and offers methods for marketing students and their work.
- THE 3370 The Theatre Professional (3)**
A preparation course that provides upper-level students with the tools to launch their professional theatrical career and livelihood.
Prerequisite: Junior status.
- THE 3365 Fundamentals of Design for Theatre (3)**
An Introduction to theatrical design and conceptual thought through interpretation, visualization, and applied practices.
- THE 3380 Travel Study in Theatre (1-3)**
Supervised study of theatre through travel abroad or within the United States.
May be repeated for credit.
Prerequisite: Permission of instructor.
- THE 4415 Performance and Production Practicum V (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity. May be repeated for credit.
Prerequisite: THE 3315.
- THE 4416 Performance and Production Practicum VI (1-3)**
Provides hands-on training related to theatrical productions in the Department of Theatre and Dance. Practicum students are assigned to casts (performers selected by audition) or crews in design, management, and/or technical theatre areas including scenery, props, lighting, sound, costumes, make-up, business, box office, and publicity. May be repeated for credit.
Prerequisite: THE 4415.
- THE 4432 Playwriting II (3)**
This course is a developmental class for students interested in pursuing further instruction in playwriting and screenwriting. This course is designed to challenge students to master an understanding of causal dramatic structure, and to break free of convention, developing their own voices, styles and storytelling techniques.
- Prerequisite: THE 3360*
- THE 4441 Oral Interpretation (2)**
Study and application of the principles and practices of oral interpretation (reading) of literature, including individual and ensemble performance.
- THE 4443 Theatre History I (3)**
Through the study of literature and dramaturgy, this course traces the history of theatre from the origins of drama to English Restoration drama of the 18th century.
Prerequisite: ENG 2205.
- THE 4444 Theatre History II (3)**
Through the study of literature and dramaturgy, this course traces the history of the theatre from the 19th century to the present.
Prerequisite: ENG 2206
- THE 4451 Directing I (3)**
Script analysis and directing principles with studies in the direction of scenes from contemporary plays.
Prerequisite: THE 3301.
- THE 4452 Directing II (2-3)**
Advanced study of directing, extending to period styles and culminating with the production of a one act play.
Prerequisites: THE 3301, 4451.
- THE 4454 Creative Project (2)**
Requirement for all graduating theatre majors in a comprehensive program of study. Course involves creation of a theatrical event or process within the student's concentration area. The student will develop a major field-related project, including conceptual proposal and written and verbal defense of project. This course will facilitate the comprehensive assessment of student mastery in theatrical production.
- THE 4455 Theatre Senior Capstone (1-2)**
Senior seminar requiring students to integrate and extend the knowledge and practice of theatre as they investigate and plan post-graduate opportunities. Students complete a comprehensive exit exam, complete a program assessment and take the Praxis II in the Theatre content area.
Prerequisite: Senior Status
- THE 4456 Developing an Educational Theatre Program (2)**
Administration aspects of an educational theatre program (P-12) including scheduling, recruitment, appropriate use of support groups and partnerships, play selection, evaluation, purchase and maintenance of resource materials and equipment, business management, performance, co-curricular and extracurricular events such as festivals and competitions. Also include theatre careers and other opportunities utilizing theatre skills as well as national theatre standards for P-12.
Prerequisites: THE 4451, junior status.
- THE 4460 Advanced Special Topics in Theatre (1-3)**
Examination of advanced selected topics in theatre not included in the established curriculum.
May be repeated for credit.
- THE 4472 Internship in Grades P-12 (9)**
The Professional Internship Program is the culminating clinical field-based experience for students seeking certification in a teaching field. The Professional Internship Program provides the student with the opportunity to conduct classes and assume the role of a teacher while receiving supervision from a classroom teacher and a university supervisor for a period of one full semester. The student will demonstrate skills of the informed, reflective decision maker throughout the internship experience.
Prerequisite: admission to TEP.
Co-requisite: IED 4454.

- THE 4481 Methods and Materials for the Theatre Teacher (3)**
Teaching methods, selection, organization and use of theatre related materials and resources in grades P-12. Units of study will be categorized by grade levels. Observation and teaching experience will be included.
Prerequisites: THE 3313, 4456, EDU 3310, admission to TEP.
- THE 4491-92 Guided Independent Research (1 to 3 credit hours per course)**
Information is indexed under Independent Study and Research.
- THE 4493-94 Guided Independent Study (1 to 3 credit hours per course)**
Information is indexed under Independent Study and Research.
- THE 4496-97 Internship (3 to 6 credit hours per course)**
An internship with a recognized professional theatre program or company in which the student is assigned specific tasks in one of the recognized areas of theatre arts. The number of credit hours earned will depend upon the number of hours contracted for in the internship agreement. The course is designed to give the student an opportunity for practical application of skills in theatre arts in a professional theatre setting. The student must apply and meet admission requirements.

TROY UNIVERSITY COURSES (TROY)

- TROY 1101 The University Experience (1)**
The primary purpose of this course is to assist entering students in acquiring the necessary knowledge and skills to manage effectively the Troy University campus environment in order to maximize their potential for success at the University, in their careers, and throughout their lives.
- TROY 1102 Major Exploration and Planning (1-3)**
The primary purpose of this course is to assist students who are exploring their educational career paths to identify interests, skills and values, and to develop goals. It also serves to assist non-traditional students considering a career change.
Note: TROY 1102 is 3 credit hours for Troy Campus students and 1 credit hour for Dothan Campus students. This course is for institutional credit only and will not be used in meeting degree requirements. This course will not substitute for any general studies requirement.
- TROY 1104 Informed Citizenship (1)**
This course is designed to examine the role of academic scholarship and the intellectual, civic and interpersonal outcomes of higher education. Through the course, students will engage in a service learning project while studying and reflecting on readings and activities to promote critical thinking skills, civic engagement and student success.
Prerequisite and/or co-requisite: TROY 1101, Membership in First Year Studies Program Learning Community.
- TROY 1105 Learning Mindset Freshman Seminar (3)**
There are two primary purposes of this course. 1. This course will assist entering students in acquiring the necessary knowledge and skills to effectively manage the Troy University campus environment in order to maximize their potential for success at the University, in their careers, and throughout their lives. 2. This course will equip Troy University students with information, skills and experiences necessary for effective collegiate and lifelong learning. Students will be presented with strategies and practices for inclusion in other courses offered at Troy University, with a particular focus on English and Mathematics courses. Growth Mindset Theory

and metacognitive learning strategies will be introduced to students. Self-awareness, self-management, time management, goal setting, and other topics will be discussed.

- TROY 1120 Peer Mentor Training (1)**
Students seeking a position as a peer mentor must participate in the class seminar for each topic. This course involves student's active engagement in the delivery of peer education programs and services to the Troy campus community. The intent of this course is to provide students with the skills to facilitate one-on-one mentoring, health promotion among peers, and group presentations on health-related content to their peers. Students will learn about the programs and services at Troy University and will be able to articulate this to students in need of services. Students will also learn basic wellness, mental health and alcohol and other drug information in preparation for presentation to their peers.
- TROY 1160 Public Issues First Year Seminar (2)**
Students will develop academic skills needed for college success while exploring civic and global issues faced in the 21st century. Students will develop an understanding of Troy University, career and scholastic development while engaging in critical thinking, readings and a service learning project focused on a public issue.
- TROY 3300 College to Career (3)**
The primary purpose of this course is to aid students in making a successful transition from college to career. It also serves to aid non-traditional students in career transition.

UNMANNED AERIAL SYSTEMS COURSES (UAS)

- UAS 2200 Unmanned Aerial Systems Overview (3)**
The purpose of this course is to provide the student with an overview of the Spectrum of UAS design, operations, and employment considerations. The student will study the developmental history of UAS systems. UAS operations within the National Airspace System and existing and proposed Federal Aviation Administration regulations will be extensively covered. Students will understand the basic physics of atmospheric flight.
- UAS 2202 Principles of UAS Design (3)**
An in-depth look at military and civilian UAS designs. The Northrop-Grumman Global Hawk, General Atomics Predator, micro-UAVs and U.S. Army small reconnaissance vehicles will be featured.
- UAS 2204 Principles of UAS Sensors & Sensing Systems (3)**
Course will cover the design considerations, packaging, and employment of various sensors and systems for UAS. Electro-optical, Forward Looking Infrared, low light, electronic sensing, and other remote sensors will be featured. Systems Integration Factors in Platform Selection is included.
- UAS 2206 Human Factors in UAS Operations & Accidents (3)**
The physical, emotional, and environmental aspects of military and civilian UAS operations will be analyzed. The impact of human error including workload, fatigue, poor situational awareness, inadequate training, lack of crew coordination and poor ergonomic design on increasing UAS accident rates will be discussed. The effects of the unique remote piloting environment on mental workload will be considered.
- UAS 2208 Legal & Ethical Considerations for UAS Operations (3)**
Discuss FAA guidelines and ethical issues, including international laws of war. Case studies on drone strikes, police surveillance, and other relevant topics.

- UAS 2210 Real World Applications (3)**
Using UAS technology in the real world, such as law enforcement, national security, public affairs, natural resources, forest fire detection, remote sensing, aerial surveillance, oil-gas exploration, transportation, conservation, and scientific research. Case studies in actual applications.
- UAS 2212 UAS Piloting Familiarization (3)**
This will be a laboratory split between UAS operations instruction and actual UAS piloting. The student will learn basic flight and mission planning techniques, and will be prepared to pass the FAA part 107 "Remote Pilot" certification. Students will participate in quadcopter and fixed wing drone setup, flight safety, mission programming, virtual practice, and "hands on" flight experience (fixed wing drone flight will be simulated using student input).