

Course Descriptions

Glossary for Course Descriptions

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250 Course Glossary

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*See Fort Campbell course descriptions

ACADEMIC SUPPORT (APSU)

APSU 1000 - Liberal Arts in University Life (1)

An interdisciplinary course which provides students with the foundations for a successful university experience by integrating an introduction to the liberal arts with an orientation to APSU expectations. Emphasis is given to the meaning, values, and goals of a liberal education as students engage in academic and career planning, use the tools for information literacy, develop good academic habits, and become involved in campus life. Class begins during Freshman Orientation. Required for all **first-time freshmen** and students who enter APSU with fewer than 12 hours earned in a college/university setting. Student must remain enrolled in APSU 1000 until a grade of "C" is earned; no student who has earned 12 hours or more may enroll except those students who have two DSP requirements.

ACCOUNTING (ACCT)**ACCT 2010 Principles of Accounting I (3)**

A study of fundamental principles of financial accounting beginning with the accounting cycle, including the preparation of financial statements for service and merchandising enterprises with emphasis on corporate form and organization. The primary focus is on analyzing transactions and the use of accounting concepts.

ACCT 2020 Principles of Accounting II (3)

Prerequisite: ACCT 2010

Continuation of Accounting 2010. Accounting for businesses and introduction to the preparation and use of cost and managerial accounting. Students are required to use financial analysis tools for management level decision making, budgeting, and forecasting.

ACCT 3000 Managerial Accounting (3)

Prerequisite: ACCT 2020; *junior standing*; *Business majors must also meet the BBA admission requirement.* NOTE: *Not open to accounting majors.*

Issues associated with both the creation of accounting information and its use as the basis for managerial decision making. The course emphasizes budgeting methods, analysis of profitability, importance of cost controls, and necessity of timely accounting information.

ACCT 3010 Intermediate Accounting I (3)

Prerequisites: ACCT 2010, 2020 with a minimum grade of "C" in both; *junior standing*; *Business majors must also meet the BBA admission requirement.*

This is an intensive study of environment and theoretical structure of financial accounting and reporting with advanced problems pertaining to the corporate form of ownership. Major topics include financial statement reporting and disclosures; the accounting processes; time value of money concepts; and asset recognition and measurements of cash and temporary investments, receivables, inventories, operational assets, intangibles, investments, and current liabilities.

ACCT 3020 Intermediate Accounting II (3)

Prerequisite: ACCT 3010 with a minimum grade of "C"

This study of advanced topics in financial accounting and reporting extends the coverage of ACCT 3010. The focus is on how enterprises account for long-term liabilities, stockholders' equity; earnings per share; reporting for income taxes; derivative instruments, pensions and post-retirement benefits; leases; changes and error analysis; and segment and interim reporting.

ACCT 3100 Financial Statement Analysis and Valuation (3)

Prerequisite: ACCT 2020; *junior standing*; *Business majors must also meet the BBA admissions requirements.*

Critically analyze published annual reports, make decisions using financial information, identify particular accounting issues, recognize the limitations of accounting information, and consider the economic consequences of accounting decisions. Business analysis and valuation.

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ACCT 3110 Cost Accounting (3)

Prerequisites: ACCT 2010, 2020 with a minimum grade of "C" in each; junior standing; Business majors must also meet the BBA admission requirements.

In-depth coverage of principles, techniques, and challenges of modern cost accounting and cost management used within the organizations for planning, control, and decision making from a strategic perspective. Topics of current interest include: job order and process costing, cost behavior, joint and by-product cost allocation, activity-based costing, variable costing, budgeting, standard costing systems, variance analysis, performance measurement, and quality control.

ACCT 3210 Computer Applications in Accounting (3)

Prerequisites: ACCT 2020, Computer Literacy, junior standing; Business majors must also meet the BBA admission requirements.

A heavily application-oriented course where students will gain experience using accounting, database, spreadsheet, and other business software, while becoming familiar with internet resources related to accounting.

ACCT 3410 Not-for-Profit Accounting (3)

Prerequisites: ACCT 2020; Business majors must also meet the BBA admission requirements.

Fund and budgetary accounting by state and local governments. Federal government accounting and reporting is discussed. Additionally, accounting for other not-for-profit organizations such as hospitals, universities, voluntary health and welfare organizations will be introduced.

ACCT 3510 International Accounting (3)

Prerequisites: ACCT 2020; junior standing; Business majors must also meet the BBA admission requirements.

The effect of culture, economy, and history on the development of accounting and financial reporting standards within nations; comparison of financial statements between countries; international risk management; the move towards harmonization of accounting standards.

ACCT 3610 Forensic Accounting (3)

Prerequisites: ACCT 2010, or prerequisite may be waived by Director's approval for Homeland Security majors.

Foundations of Forensic Accounting will be introduced. Additional topics to be examined include international issues and current events in accounting, as well as exposure to the "new" world of accounting and its ever-changing environment and ethical scenarios highlighting the ethical responsibilities of accountants.

ACCT 3710 Accounting Information Systems (3)

Prerequisites: ACCT 3210, Computer Literacy, junior standing; Business majors must also meet the BBA admissions requirements.

Accounting information systems including data/information handling, concepts, practices, professional ethics, and internal controls. Students are required to complete manual and computerized accounting information systems projects, and research and prepare a written report.

ACCT 4210 Auditing (3)

Prerequisites: ACCT 3020, 3210, 3710

Auditing includes study of evidence, internal controls of an organization, professional ethics, and legal issues related to auditing, reporting on audit results and standards. Financial auditing will be emphasized; operational or internal auditing and techniques similar to auditing such as reviews and compilations.

ACCT 4220 Auditing II (3)

Prerequisite: ACCT 4210

Auditing practice and theory emphasizing current authoritative professional literature and case studies. Students are required to research and prepare written reports and make presentations using multimedia technology. Includes an individual audit practice case and a group simulated audit.

ACCT 4310 Income Tax Accounting (3)

Prerequisite: ACCT 2020; *junior standing*; *Business majors must also meet the BBA admission requirements.*

Introduction to Internal Revenue Code and Treasury Department regulations with emphasis on the determination of income and statutory deductions to compute taxable net income; taxation of gains and losses on property transactions; the alternative minimum tax. Introduction to the use of tax and financial planning techniques.

ACCT 4320 Corporate and Business Entities Taxation (3)

Prerequisite: ACCT 2020; *junior standing*; *Business majors must also meet the BBA admission requirements.*

A study of tax issues involved in the formation, capital structure, operation, liquidation, reorganization, and acquisitions of U.S. corporations, partnerships, sole proprietorships, and limited liability companies (LLCs); particular attention is devoted to C and S corporations. This course provides the tax background necessary to understand the structure of many common business transactions.

ACCT 4510 Advanced Accounting (3)

Prerequisite: ACCT 3020

Advanced accounting topics, business combinations and consolidations, partnership, international accounting, including foreign currency transactions and financial statement translations, segment and interim reporting, and accounting for bankruptcies and liquidations.

ACCT 4610 Accounting Theory (3)

Prerequisite: ACCT 3020

Selected readings from current literature, periodicals, and official publications from accounting organizations. Examination of both the historical development and current state of accounting theory, principles, and practice, and the environment influencing accounting practice. Consideration of theoretical issues associated with financial reporting. Students will write a research paper using information obtained from a variety of sources.

ACCT 490A,B,C Special Problems in Accounting (1, 2, 3)

Prerequisites: *senior standing and permission of department chair*

Supervised independent study of accounting topics (outside of classroom) which are academically relevant and of interest to both student and faculty.

254 African American Studies (AAST)

AFRICAN AMERICAN STUDIES (AAST)

AAST 2000 Contemporary African American Life (3)

Contemporary issues and achievements in African American life will be addressed in this course. The experiences of African Americans and other racial and ethnic groups will be compared and contrasted. In addition, students will develop strategies they can use with families, coworkers, and peers to create better race relations in their immediate environments and nation as a whole.

AAST 2200 Introduction to African American Studies (3)

A reading and discussion course that gives an analysis of the African American experience from a cultural, historical, social, political, and psychological perspective.

AAST 2250 African American Expressive Culture (3)

Various aspects of expressive culture within the African American community; for example, music, dance, and art will be explored. Students will learn the importance of these art forms in the daily lives of African Americans. This course will also highlight the achievements and contributions of African American artists to the world.

AAST 300 A,B,C Selected Topics in African American Studies (3)

Examination of a selected topic by an instructor relevant to issues in the field of African American Studies.

AAST 3000 Africana Women Across Cultures (3)

The roles (lifestyles, value systems, occupations) of women of African descent living in various parts of the world will be explored, compared, and contrasted. In addition, students will analyze the impact of racism, sexism, and economic oppression on the lives of these women.

AAST 3020 Seminar in African American Studies (1-6)

The focus of the seminar is determined by the individual instructor. Generally, selected seminar topics are too narrow for three-credit courses. More than one seminar may be offered in a given semester ranging from one to six credit hours. Up to six seminar hours may apply towards the minor in African American Studies.

AAST 3100 Black Leaders of the Twentieth Century (3)

Prerequisite: AAST 2200 or permission of instructor

An intellectual study of African American leaders of the 20th century, including Booker T. Washington, Ida B. Well-Barnett, W.E.B. DuBois, James Weldon Johnson, Marcus Garvey, Mary McLeod Bethune, and Charles Hamilton Houston. Focus on issues and schema of race, gender, and class relative to selected subjects and their participation in mass social movements.

AAST 3200 Study Abroad in Ghana, West Africa (6)

Prerequisites: AAST 2200 or permission of instructor

This course is designed to expose students to various aspects of life in Africa through a diverse range of topics, including the past, present, and future of African culture and societies, the transatlantic slave trade, and the efforts of one of the premiere developing countries to reclaim its nationhood.

AAST 4000 African American Studies Research (3)

This course will be divided into two components. In the first component, students will learn research methodologies appropriate for African American Studies. In the second component, students will identify a topic of interest and develop a research project. The final project should be publishable and presented to an audience of African American Studies researchers and professionals.

AAST 4100 African American Studies Field Experience (4)

Prerequisite: permission of director

Students in consultation with the Director of African American Studies will complete a supervised experiential-based, work/volunteer assignment within Clarksville or surrounding areas. The Director may approve placements in other geographical locations. During the assignment, students will apply the theories and research methodologies learned in other African American Studies courses.

AAST 4200 African Philosophy (3)

Prerequisite: AAST 2200, AAST 4000, or permission of instructor

This course explores ancient, traditional, and contemporary philosophical/theoretical concepts and doctrines of Africans through an investigation of their cosmological, metaphysical, ontological, and ethical worldview.

AGRICULTURE (AGRI)**AGRI 1000 Survey of Agriculture (1)**

Agricultural institutions and career opportunities and agriculture's ability to meet the food and fiber needs of society.

AGRI 1140 Pests, Society and Environment - Three hours lecture, two hours lab (4)

The biology and nature of pest species and their impact on society. Principles of integrated pest management in relation to environmental quality and sustainability.

AGRI 1310 Animal Science (3)

Importance and role of nutrition, physiology, breeding, selection, and management in animal production. Emphasis is placed on domestic farm animals.

AGRI 1410 Plant Science - Three hours lecture, two hours lab (4)

Fundamentals of science and economic importance of plants and their relationship to agriculture and society.

AGRI 2210 Soils - Three hours lecture, two hours lab (4)

Prerequisite: sophomore standing

Soil types, formation, chemical and physical composition, colloids, moisture, conservation, fertility, and classification.

AGRI 2310 Animal Management Practices (3)

Prerequisite: AGRI 1310 or permission of instructor

Livestock management and practices performed on a routine basis. Emphasis placed on restraints, working facilities, physical procedures performed, and humane treatment of animals.

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AGRI 2410 Fruit and Vegetable Production (3)

Prerequisite: sophomore standing

Science and production practices of orchards, small fruit plantings, and vegetable gardens for home and small commercial operations.

AGRI 2500 Introduction to Agri-Business (3)

Prerequisite: sophomore standing

Role and scope of agri-business; organization forms including cooperatives, agricultural marketing, management, and financial systems; diffusion of agricultural technology.

AGRI 3000 Conservation (3)

Prerequisite: sophomore standing

Use and abuse of natural resources. Historical perspectives and current management of forests, wildlife, and soils, including aspects of recreational use and pollution problems.

AGRI 3020 Agriculture Power and Machinery (3)

Prerequisite: junior standing or permission of instructor

Agricultural power sources and machinery, work and power transformation, engine and machinery calculations, field capacities, field efficiency, break even use, and machinery adjustments.

AGRI 3110 Animal Health and Disease Control (3)

Prerequisites: AGRI 1310, BIOL 1010, or permission of instructor

The lines of defense of the body and how common disorders are diagnosed and treated, as well as how to develop good herd health programs.

AGRI 3210 Fertilizers and Soil Fertility (2)

Prerequisite: CHEM 1010 or equivalent

Sources and properties of fertilizers and other soil amendments, methods of application, and soil chemistry.

AGRI 3220 Soil and Water Conservation - Two hours lecture, two hours lab (3)

Prerequisite: AGRI 2210 or GEOL 1040

Problems and methods of soil and water conservation; topography, water control structures, and farm planning for sustained use of land.

AGRI 3310 Animal Nutrition and Feeding - Three hours lecture, two hours lab (4)

Prerequisites: AGRI 1310, CHEM 1010, or permission of instructor

Scientific aspects of nutrition, including digestion, absorption, and metabolism of nutrients, and ration formulation.

AGRI 3330 Beef Production Management (2)

Prerequisites: AGRI 1310, junior standing or permission of instructor

Beef cattle production systems and application of the principles of nutrition, physiology, breeding, and management to the production of beef.

AGRI 3340 Swine Production Management (2)

Prerequisite: AGRI 1310, *sophomore standing or permission of instructor*

Swine production systems and application of the principles of nutrition, physiology, breeding, and management to the production of pork.

AGRI 3350 Horse Production (2)

Prerequisite: AGRI 1310, *sophomore standing or permission of instructor*

Integration of principles of nutrition, physiology, and breeding into the management of horses.

AGRI 3360 Dairy Production Management (2)

Prerequisites: AGRI 1310, *junior standing or permission of instructor*

Application of principles of nutrition, physiology, and breeding to the managing of milk production.

AGRI 3370 Poultry Production Management (2)

Prerequisite: AGRI 1310, *sophomore standing or permission of instructor*

Poultry production systems and application of principles of nutrition, physiology, and breeding to the management of poultry.

AGRI 3380 Companion Animal Management (2)

Prerequisite: *sophomore standing*

Study of animals bred and maintained for man's amusement and companionship, including principles of nutrition, physiology, breeding, training, and economic impact.

AGRI 3400 Ornamental Gardening (3)

Prerequisite: *sophomore standing*

Design, planting, culture, and maintenance of herbaceous ornamental plants including annuals, biennials, perennials, bulbs, herbs, and wildflowers.

AGRI 3410 Landscaping - Two hours lecture, two hours lab (3)

Prerequisite: *sophomore standing*

Identification, culture, design, uses, and maintenance of perennials, turf grasses, and woody plant material for home residences.

AGRI 3420 Forage Crops (3)

Prerequisite: AGRI 1410 *or permission of instructor*

Distribution, structure and growth, improvement, culture, harvesting, and identification of forage crops adapted to this region.

AGRI 3430 Applied Weed Science (3)

Prerequisite: AGRI 1410 *or permission of instructor*

Characteristics, importance, and identification of prominent weed species; integrative weed management concepts.

AGRI 3500 Agriculture Economics (3)

Prerequisite: *junior standing or permission of instructor*

Study of the allocation of agricultural resources, land, labor, capital, and management. Production costs, price determination, marketing, and finance.

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AGRI 3610, 3620 Internship in Agriculture (2 each)

Prerequisites: approval of agriculture advisor and prior arrangements with agency

Learning experience acquired through supervised part-time unsalaried placement with an agricultural business or agency. Grading on a pass/fail basis.

AGRI 4010, 4020 Agriculture Seminar (1 each)

Prerequisite: junior standing

Preparation and presentation of reports on specially assigned current topics in agriculture.

AGRI 4110 Agro-Terrorism (3)

Prerequisite: sophomore standing

Threats to U.S. security involving the industry of Agriculture—including animal and plant diseases, toxic and explosive agricultural chemicals, invasive species, and natural disasters. Additional topics include surveillance, risk appraisal, protecting food supply, and examples of terrorist types.

AGRI 4210 Soil Genesis, Taxonomy, Mapping - Two hours lecture, four hours lab (4)

Prerequisite: AGRI 2210 or GEOL 3100

Soil formation, morphology, profile description, classification, and mapping.

AGRI 4230 Land Use (3)

Prerequisite: sophomore standing

Use of land for agriculture, industry, recreation, urbanization, etc; environmental concerns, regional planning, use of soil surveys, and factors in decision making.

AGRI 4310 Reproduction in Farm Animals - Two hours lecture, two hours lab (3)

Prerequisites: AGRI 1310, BIOL 1010

Anatomy, physiology, and endocrine control of the reproductive system of farm animals; the application of these principles to the management of livestock, artificial insemination, and embryo transfer.

AGRI 4410 Tobacco and Grain Crops (3)

Prerequisite: sophomore standing

Origin, history, classification, uses, and cultural practices of tobacco, wheat, corn, and soybeans.

AGRI 4420 Forestry - Two hours lecture, two hours lab (3)

Prerequisite: sophomore standing

Introduction to forestry, reforestation, mensuration, harvesting, utilization, and wildlife conservation.

AGRI 4430 Genetics of Crops and Livestock (3)

Prerequisites: AGRI 1310, 1410, or permission of instructor

Mechanisms of heredity including Mendelian Principles, linkage, gene action, hybrids, mutation, and lethal genes with application to modern systems of breeding used in crops and livestock.

AGRI 4440 Plant Pathology (3)

Prerequisite: junior standing or permission of instructor

Identification, nature, and control of diseases of agricultural and garden crops. Control measures include chemical, biological, and cultural means.

AGRI 4500 Farm Planning and Management - Three hours lecture, two hours lab (4)

Prerequisite: 12 hours credit in agriculture or permission of instructor

Organizing and operating the farm business with emphasis on allocation of land, labor, and capital.

AGRI 4610, 4620 Cooperative Educational Experience (5 each)

Prerequisites: approval of agriculture advisor and prior arrangement with employer

Learning experience acquired through supervised full-time salaried employment with an agricultural business or agency. Grading on a pass/fail basis.

AGRI 4800 Agronmeterology - Three hours lecture, two hours lab (4)

Prerequisite: GEOG 1010, MATH 1010 or higher

The meteorological, climatological, and hydrological conditions significant to optimum crop growth and livestock production, including regional suitability of crops and livestock, short-term adjustments to minimize losses from adverse weather, and long-range planning based on seasonal forecasts and climate change. Application of GIS-based software to predict impacts of weather on agriculture.

AGRI 4910, 4920, 4930 Special Problems (1-3 hours)

Prerequisite: permission of instructor

May be repeated for credit.

ART (ART)

Some courses are not offered every year.

Please consult with your advisor about scheduling.

ART 1010 Two-Dimensional Design (3)

Fundamental experience in two-dimensional design, with emphasis on the elements and principles of design and creative development, and media skills training.

ART 1020 Three-Dimensional Design (3)

Fundamental experiences in three-dimensional design, with emphasis on the elements and principles of design and creative development, and media skills training.

ART 1030 Art Appreciation (3)

Course renumbered from Art 2000

The relationship and influences of the visual arts on the individual and culture.

ART 1040 Drawing I (3)

The fundamentals of drawing for visual arts.

ART 1050 Drawing II (3)

Prerequisites: ART 1010, 1040

Drawing the human form and study of anatomy in composition.

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ART 1070 Electronic Imaging (3)

The use of Macintosh computer hardware and software as a visual arts tool.

ART 2010 Art History, Survey I (3)

A history of the visual arts from cultures throughout the world, from prehistory to 1300 A.D., that examines works of art within their social, political, economic, religious, technological, and philosophical contexts.

ART 2020 Art History, Survey II (3)

A history of the visual arts from cultures throughout the world, from 13th to 20th centuries, that examines works of art within their social, political, economic, religious, technological, and philosophical contexts.

ART 2030 Printmaking I (3)

Prerequisites: ART 1010, 1040

The study and practice of relief and intaglio printmaking techniques with an emphasis on the development of hand skills and basic inking and printing methods.

ART 2040 Painting I (3)

Prerequisites: ART 1010, 1040

The fundamentals of pictorial composition with emphasis on individual creative expression. An investigation of material and techniques in oil and polymer painting.

ART 2050 Pottery, Ceramics I (3)

Use of slab, coil, pinch, and modeling, and introduction to wheel construction methods of forming ceramic vessels. Glazes and surface decoration are included.

ART 2070 Sculpture I (3)

Prerequisites: ART 1020, 1040

Introduction to sculptural techniques and materials. Included are modeling, carving, construction, and casting.

ART 2090 Photography I (3)

Introduction to creative black and white photography with small-format camera.

Introduction to development of film, camera use, and darkroom procedure.

ART 2320 Graphic Design I (3)

Prerequisites: ART 1010, 1040

Graphic design fundamentals and layout techniques, design of comprehensives, commercial craftsmanship, and image making.

ART 2520 Typography (3)

Prerequisites: ART 1010, 1040

An introduction to basic layout with type, type design, study of styles, and history of typography.

ART 3080 Illustration I (3)

Prerequisites: ART 1010, 1040, 2320, or permission of instructor

Exploring the invention of images related to visual communications and illustration techniques. Emphasis will be placed on research, conceptualization, and visualization processes as they relate to graphic design.

ART 3110 Prepress Production (3)

Prerequisite: ART 2320

An introduction to methods of preparing design for commercial printing, using Macintosh systems and software. Topics include document and image preparation, printing presses, separation, etc.

ART 3140 Art Education I (3)

Concepts of art education in public school programs; laboratory experiments in media and techniques; and child development and learning based on visual experiences. Methods of teaching at elementary grade level.

ART 3150 Art Education II (3)

Prerequisite: ART 3140

Study of the nature and practice of the art specialist in the teacher-learning situation. Planning educational objective, units for learning, methods of evaluation, and administration of art programs in public schools. Includes 18 hours of classroom observation.

ART 3160 Art Education III (3)

Prerequisite: ART 3150

Study of recent research findings in Art Education. Students study the history of art education and complete a comprehensive plan for a course of study in criticism of art objects.

ART 3170 Advanced Digital Imaging (3)

Prerequisite: ART 1070 or permission of the instructor

Specialized course in the use and understanding of advanced digital imaging programs with an emphasis on motion and time. Macintosh platform programs approached with studio art applications.

ART 3200 Art History, United States (3)

A contextual study of the achievements in architecture, painting, and sculpture from the Colonial 17th century through the modern 20th century.

ART 3220 Modern Art, 19th and 20th Century (3)

Prerequisites: ART 2010, 2020

Study of major developments in European and American painting, sculpture, and architecture from the French Revolution to the end of WWII.

ART 3230 Art History, Contemporary (3)

Prerequisites: ART 2010, 2020

Historical precedents and methods of criticism will be used as criteria for study of images from the 1960s to the present.

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ART 3240 Art History, History of Photography (3)

A study of the invention and development of photographic processes and styles from a socio-historical stance for an understanding of photography's place in history, art history, and the history of communication.

ART 324x Art History, Special Topics (3)

Prerequisites: ART 2010, 2020, or permission of the instructor

An in-depth study of selected topics in the history of art, including specific artists, stylistic movements, methodology, and/or art criticism. Topics to be announced. May earn up to a total of six hours of 324x courses.

ART 3270 History of Graphic Design (3)

Prerequisites: ART 2010, 2020

Study of visible language and visual communication in graphic arts and design. Emphasis will be placed on art historical developments as they relate to graphic design in the 20th century.

ART 3340 Drawing III (3)

Prerequisite: ART 1050

Use of drawing media for creative image making.

ART 3370 Web Design (3)

Prerequisite: ART 1070

Focus on the design of internet sites. Emphasis placed on the visual design, navigation development, communication, and authoring websites.

ART 3430 Printmaking II (3)

Prerequisites: ART 1010, 1040

The study and practice of photo-mechanical processes as they relate to printmaking. Techniques will include photo-silkscreen and various print formats using traditional and experimental image-making methods.

ART 3440 Painting II (3)

Prerequisite: ART 2040

A continuation of any painting medium or combination of medium, with emphasis on individual problems and the organization of ideas in creative design.

ART 3450 Ceramic Sculpture (3)

Prerequisites: ART 1020, 1040

Use of clay bodies to construct sculpture forms utilizing slab, modeling, coil, cast, thrown, extruded, or experimental forming techniques to make creative statements in sculpture.

ART 3530 Printmaking III (3)

Prerequisites: ART 1010, 1040

Printmaking forms in both traditional methods and new techniques, including photolithography, collography, and monitoring.

ART 3540 Drawing IV, Thematic Development Drawing (3)

Prerequisites: ART 2010, 2020, 3340

An advanced drawing course in which students develop and explore self-directed serial imagery, and examine their work in both an historical and contemporary critical context.

ART 3550 Glazes and Surface Design (3)

Prerequisite: ART 2050

Advanced experimentation in design and creation of surface effects and coatings on fired ceramic objects, especially glaze formulating.

ART 3560 Painting, Watercolor I (3)

Prerequisites: ART 1010, 1040

Explore the concepts and techniques of pictorial composition using watercolor. Intermediate level studio course for students with proven skills in drawing and painting.

ART 3570 Sculpture II (3)

Prerequisite: ART 2070

A continuation of Sculpture I with emphasis on personal artistic development in combining media and techniques in sculptural forms.

ART 3590 Photography II (3)

Prerequisite: ART 2090

A continuation of Photography I. Students work toward improving their darkroom skills and developing a personal direction for their work. Documentary and studio photography are introduced, as well as creative, alternative process.

ART 3650 Pottery-Ceramics II (3)

Prerequisite: ART 2050

Advanced work in design and techniques of creating ceramic vessels.

ART 3690 Digital Photography (3)

Prerequisites: ART 1070, 2090

Exploration of photography through digital media, to include digital camera, computer hardware, and software.

ART 4040 Painting III (3)

Prerequisite: ART 3440

Advanced studio experiences for painters, exploring content, techniques, and mediums employed by contemporary artists. Studies in professional portfolio development for painters, and technical preparations and display of works on panel and canvas.

ART 4060 Painting, Watercolor II (3)

Prerequisite: ART 3560

Advanced studio experience for watercolors; exploring content, techniques, and mediums employed by 19th and 20th century Asian and Western artists. Topics include studies for development of a professional watercolor portfolio and presentation/display of works on paper.

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ART 4070 Sculpture III (3)

Prerequisite: ART 3570

This course will focus on critical thinking, creative problem solving, and development of a personal visual vocabulary. Students will research contemporary issues in sculpture and use those ideas in the development of their personal work.

ART 4080 Illustration II (3)

Prerequisite: ART 3080

Focus on the development of a personal technique, style, posture, and vocabulary. Emphasis will be on images that concentrate on book and editorial illustration.

ART 4085 Illustration III (3)

Prerequisite: ART 4080

Advanced studio experience for illustrators. Topics will include the relationship of image to text, narrative development, and self-directed imagery.

ART 4090 Problems in Art (3)

Prerequisite: permission of instructor

A continuation of work in a specific media under the direction of an instructor in a scheduled class. May be repeated for a second three hours, but may not be enrolled in for six hours concurrently.

ART 410x Topics in Studio Art (3)

Prerequisite: permission of instructor

Concentrated study in a studio area. In-depth research on specific artists, movements, periods, current issues, and/or problems in studio art. Topics to be announced. May be repeated, but credit is limited to three hours per topic.

ART 4120 Graphic Design II (3)

Prerequisite: ART 2320

Intermediate study and skill development in the visual elements and media used in layout and design development for comprehensives.

ART 4125 Graphic Design III (3)

Prerequisite: ART 2520, 4120

Advanced study and skill development in the visual elements and media used in layout and design development for comprehensives.

ART 4150 Studio, Senior Seminar (3)

Prerequisites: approval/acceptance to the BFA program; approval of semester contract by instructor

ART 4150 and ART 4160 must be taken during different semesters. A lecture/lab course; lecture focuses on business of art and design by directing students to define their professional goals and discuss career options. Students will select a faculty mentor to oversee their studio/lab work.

ART 4160 Senior Thesis II (3)

Prerequisites: ART 4150, approval of semester contract by instructor

A capstone course for BFA Majors that focuses on the business of art by directing students to define their professional goals, discuss career options, and develop a professional portfolio. Students continue independent work with their faculty mentors. Students will present a final exhibition of work that is representative of their course of study.

ART 4190 Photography III (3)

Prerequisite: ART 3590

A continuation of Photography II. Students are expected to be more self-directed in developing the content of their projects. Idea development and issue related work is emphasized. Digital imaging is used as a tool, as well as alternative darkroom processes.

ART 4310 Art Internship (3)

Prerequisite: permission of instructor and department chair

On-the-job training for art students who have art-related job opportunities. May be repeated for a second three hours, but may not be enrolled in for six hours concurrently.

ASTRONOMY (ASTR)**ASTR 1010 Planetary Astronomy - Three hours lecture, three hours lab (4)**

Corequisite: ASTR 1011

The subjects of planetary astronomy such as the planets and their moons, planetary geology, the sun, the origin of the solar system; the tools and methods of astronomy including celestial observation, light and other types of radiation, telescopes and spectroscopy. Laboratory 1211 is to be taken concurrently.

ASTR 1020 Stellar Astronomy - Three hours lecture, three hours lab (4)

Corequisite: ASTR 1021

The subjects of stellar astronomy such as starbirth, starlife, stardeath, pulsars, blackholes, galaxies, Quasars, and cosmology; the tools and methods of astronomy including locating and naming stars and constellations, light and other radiation, telescopes, and spectroscopy. Laboratory 1221 is to be taken concurrently.

ASTR 2010 Problems in Planetary Astronomy (1)

Prerequisites: ASTR 1010 and completion of math core course

Problems to accompany ASTR 1010 Planetary Astronomy for students seeking mathematical foundation to planetary astronomy.

ASTR 2020 Problems in Stellar Astronomy (1)

Prerequisites: ASTR 1020 and completion of math core course

Problems to accompany ASTR 1020 Stellar Astronomy for students seeking mathematical foundation to stellar astronomy.

ASTR 3005 Observational Astronomy - One hour lecture, three hours lab (2)

Prerequisites: ASTR 1010 or 1020; *Corequisite:* ASTR 3006 (concurrent enrollment is required)

This course will involve a significant number of nighttime observing hours each week. Students will learn the constellations and stars of the night sky. They will learn to set up, align, and use several different types of telescopes.

266 Astronomy (ASTR)

ASTR 3010 History of Astronomy (3)

Prerequisites: ASTR 1010, 1020

This course examines the historical development of the science of astronomy. Beginning with the ancient cultures and their religious associations with astronomy, through the philosophies of the ancient Greeks, and moving into the renaissance era with Copernicus, Kepler, Galileo, and finally Newton. The course concludes with the modern era and the development of modern theories in astronomy and astrophysics.

ASTR 3020 Cosmology (3)

Prerequisites: MATH 1110 or higher, ASTR 1010, 1020

This course examines current theories on the origin and evolution of the universe. The subjects of the course will include the Big Bang theory, cosmological inflation, dark matter, dark energy, and the final fate of the universe.

ASTR 3030 Methods and Instrumentation in Astronomy (3)

Prerequisites: PHYS 2120; *Corequisite:* ASTR 3031

Detailed introduction to the techniques and instrumentation used in modern observational astronomy. Includes astronomical sources, observational limits, telescopes, atmospheric effects, spectrographs, single-channel detectors and advanced solid-state detectors of all types.

ASTR 3040 Astrobiology (3)

Prerequisites: Completion of math core course, completion of one course (two are recommended) in Astronomy, Biology, Chemistry, Physics, or Geography.

Introduction to Astrobiology. Topics include the formation of stars and planets, stellar habitable zones, properties of life, origin and evolution of life on Earth, the search for life elsewhere in the Universe, mass extinctions, extremophiles, space missions, SETI, Drake equation. Designed for non-science, liberal arts majors.

ASTR 4000 Astrophotography and Image Processing - One hour lecture, six hours lab (3)

Prerequisites: ASTR 1010, 1020; *Corequisite:* ASTR 4001

This course will involve a significant number of nighttime observing hours each week. Students will learn the fundamentals of astrophotography using web cams; digital, CCD and video cameras; and the techniques of image processing for scientific and aesthetic value. A basic knowledge of photography, either 35mm or digital, is essential for successful completion of this course.

ASTR 4010 Astrophysics 1: Introduction to Stellar Structure and Evolution (3)

Prerequisites: ASTR 1020, 2020, PHYS 2120, MATH 3120 or PHYS 3005

Introduces the physics of the sun and stars. Includes properties of E&M radiation, stellar distances and magnitudes, radiative transfer, the sun, the ISM and star formation, stellar evolution, stellar endpoints and variable stars.

ASTR 4020 Astrophysics 2: Galactic Structure and Cosmology (3)

Prerequisites: ASTR 4010

Includes galactic coordinates, galactic rotation curves, N-body concepts and the virial theorem, Galactic formation and evolution, external galaxies, galaxy cluster evolution, Hubble's law and the distance scale, large-scale structure, cosmology and the particle physics connection.

ASTR 4150 Special Topics in Astronomy (1)**ASTR 4160 Special Topics in Astronomy (2)****ASTR 4170 Special Topics in Astronomy (3)**

Prerequisites: ASTR 1010, 1011, 1020, 1021 and permission of instructor

Selected topics of interest in advanced astronomy. Topics to be chosen by the instructor and students. ASTR 4150, ASTR 4160 and ASTR 4170 may be taken for different topics for a total of up to 15 credit hours combined.

ASTR 4151 Research Experience (1)**ASTR 4161 Research Experience (2)****ASTR 4171 Research Experience (3)**

Prerequisites: ASTR 1010, 1011, 1020, 1021 and permission of instructor

Research activities in astronomy agreed on by the students and instructor which may emphasize lab techniques or data acquisition and analysis. Written and oral reports are required. ASTR 4151, ASTR 4161 and ASTR 4171 may be repeated for different research areas for a total of up to 15 credit hours combined.

ASTR 4950 Independent Study in Astronomy (1)**ASTR 4960 Independent Study in Astronomy (2)****ASTR 4970 Independent Study in Astronomy (3)**

Prerequisites: ASTR 1010, 1011, 1020, 1021 and permission of instructor

Current topics in astronomy. Topics to be chosen by student. Subject to be approved by instructor. May be repeated with permission of instructor.

BIOLOGY (BIOL)

BIOL 1010 Principles of Life -Three hours lecture, three hours lab (4)

A course for non-science majors. Topics covered include scientific methodology, the nature of living organisms, cell structure and function, cell chemistry and division, nature of heredity and gene action, and the theory of evolution. BIOL 1010 will not serve as a prerequisite of upper division biology courses.

BIOL 1020 Diversity of Life -Three hours lecture, three hours lab (4)

A course for non-science majors. The course reviews basic scientific methodology and surveys the kingdoms of life with particular attention to the evolution and ecology of these forms. The portion of the course involving vertebrate animals will include discussions of selected human systems. BIOL 1020 will not serve as a prerequisite of upper division biology courses.

BIOL 1040 Human Biology -Three hours lecture, three hours lab (4)

A course for non-science majors. A survey of human structure, function, evolution, and ecology. Topics covered include scientific methodology, biological chemistry, cells, tissues, organ systems, genetics and human development, evolution, and ecology. BIOL 1040 will not serve as a prerequisite of upper division biology courses.

268 Biology (BIOL)

BIOL 1110 Principles of Biology - Three hours lecture, three hours lab (4)

A principles course for students majoring or minoring in biology or other sciences. Topics include scientific methodology, an overview of the physiological processes of living organisms including metabolism and energy transfer, concepts of inheritance and the nature of genes, and foundational concepts of evolution and ecology. A brief overview of the kingdoms of life and the rudiments of classification will be presented.

BIOL 2010 Human Anatomy and Physiology - Three hours lecture, three hours lab (4)

Designed for students in health and human performance, psychology, nursing, and allied health programs. Structure and function of the human body, with emphasis on cellular structure and function, tissues, and the integumentary, skeletal, muscular, nervous, and endocrine systems will be discussed.

BIOL 2020 Human Anatomy and Physiology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 2010

Continuation of BIOL 2010. Treats the cardiovascular, lymphatic, immune, respiratory, digestive, and excretory systems, water and electrolyte balance, human reproduction, growth, and development, and human genetics.

BIOL 2300 Principles of Microbiology - Three hours lecture, three hours lab (4)

Prerequisite: eight hours of Biology

An introductory study of bacteria, viruses, fungi, and protozoans with particular emphasis on their relationship to infection and disease. Asepsis, immunity, sterilization, and special problems related to patients and hospitals. Completion of BIOL 2300 does not substitute for BIOL 3050 for a Biology major or minor.

BIOL 3050 Microbial Diversity - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110

The evolutionary process will provide an overarching theme in a comparative study of the morphology, physiology, and ecology of representative microorganisms. The coevolution of hosts and pathogens will also be discussed. The term microorganism includes subcellular viruses, bacteria, protists, and microscopic fungi.

BIOL 3060 Zoological Diversity - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110 or 2020

A comparative study of the taxonomy, functional morphology, development, ecology, and evolution of representative animals.

BIOL 3070 Botanical Diversity - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110

An evolutionary survey of the plant kingdom (including macroscopic fungi), involving a comparative study of the structure, reproduction, life cycle, and importance of representatives from the various groups.

BIOL 3200 Women and Science - Three hours lecture (2)

Prerequisite: eight hours of natural science

This course is an interdisciplinary survey of women in science. Contributions of women scientists to the natural sciences will be studied; using this historical context, students will consider broad social questions such as: Do barriers still exist for women/girls in science? and How do cultural biases impact the objectivity of scientific studies?

BIOL 3330 Principles of Evolution - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110 or permission of instructor

Designed to impart an understanding of the core concepts in modern evolutionary theory, and an appreciation of the central position that theory holds as a theme unifying all subdisciplines of biology.

BIOL 3730 Medical Microbiology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 2300 or 3050

Knowledge and interpretation which will enable the student to become proficient in isolating and identifying human pathogens. Bacterial isolation and morphology will be stressed.

BIOL 3760 Immunology and Serology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 2300 or 3050

Fundamentals of antigen-antibody reactions, and serologic procedures performed in the clinical laboratory.

BIOL 4020 Biological Sciences and Geographic Information Systems – Three hours lecture, three hours lab (4)

Prerequisites: BIOL 1110 or equivalent and one upper division biology course and/or permission of instructor

Students in the biological sciences shall learn the functionality of geographic information systems and spatial analysis related to epidemiological and population dynamics. They will learn the integration of computer plotting, site investigative mapping, and analysis of geopositioning satellite information from the application of real-time case studies of research problems in the biological sciences.

BIOL 4040 Histology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110

Principal mammalian tissues. Primary emphasis is placed on the recognition of tissue types and their relationships within the organs.

BIOL 4050 Field Botany - Two hours lecture, four hours lab (4)

Prerequisite: eight hours of biology

A study of local vascular plants with emphasis on identification, the use of manuals, preparation of collections, and distinguishing features of the major groups.

BIOL 4070 Animal Behavior – Three hours lecture, three hours lab (4)

Prerequisites: BIOL 1110 or equivalent and one upper division Biology course

The course will instruct the student in major topics of animal behavior. The instructional material will focus on the three main areas of animal behavior research, categories of animal behavior, evolution of animal behavior, and neuro-analysis of animal behavior.

270 Biology (BIOL)

BIOL 4080 General Ecology - Three hours lecture, three hours lab (4)

Prerequisite: eight hours of biology

A survey of basic ecological principles and processes and their application of the welfare of humans and their environment. Lecture and laboratory activities focus on understanding ecosystem dynamics. Includes statistical analysis of field-collected data.

BIOL 4100 Biostatistics - Three hours lecture, three hours lab (4)

Prerequisites: completion of the mathematics core and senior status or permission of instructor

Statistical methods in biological research. Basic descriptive and inferential statistics, frequency distributions and analyses, analysis of variance, linear regression, correlation, non-parametric analogues to parametric methods, relationships between experimental design and data analysis used in hypothesis testing. Selected multivariate analysis, statistical resampling methods, and data reduction techniques discussed. Computer use emphasized.

BIOL 4110 Animal Physiology - Three hours lecture, three hours lab (4)

Prerequisites: BIOL 1110, 3060, and one eight-hour chemistry series

A survey of animal physiology with emphasis on mammalian systems. The molecular and cellular aspects of physiology as they relate to the function of the organisms are considered. All major systems are discussed.

BIOL 4120 Plant Physiology - Three hours lecture, three hours lab (4)

Prerequisites: eight hours of Biology including BIOL 1110

Principal physiological processes of plants, including mineral nutrition, photosynthesis, water relation, translocation, respiration, growth hormones, photo-physiology, and biological function of nucleic acids and proteins.

BIOL 4130 Genetics - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110 or 2020

Consideration of the principles underlying inheritance in plants and animals. Application of these principles to population dynamics. Concepts are taught through problems based on experimental data.

BIOL 4160 Human Physiology - Three hours lecture, three hours lab (4)

Prerequisites: BIOL 1110 or 2020, CHEM 1110

The molecular and cellular aspects of human physiology as they relate to the regulation of homeostasis, cellular metabolism, the nervous system, muscle, cardiovascular, respiratory, renal, gastrointestinal, and endocrine systems. BIOL 4160 does not fulfill the physiology requirement for the Biology major or minor.

BIOL 4200 General Embryology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 1110 or 2020 or permission of instructor

The morphology and physiology of vertebrate development.

BIOL 4300 Bacteriology - Three hours lecture, three hours lab (4)

Prerequisites: eight hours of biology and eight hours of chemistry

An introduction to each of the 10 groups of bacteria. Major emphasis will be placed on those groups that greatly affect humans through their beneficial or harmful attributes.

BIOL 4340 Phycology - Three hours lecture, three hours lab (4)

A study of the structure, evolution, ecology, and physiology of algae. Students will conduct research to learn methodologies needed to use physiological and ecological characteristics of algae as indicators of environmental health.

BIOL 4350 Field Zoology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 3060

A survey of the native vertebrate animals, with emphasis on collection, preservation, identification, and taxonomic relationships.

BIOL 4400 Teaching Science in High School - Three hours lecture (3)

Prerequisite: provisional admission to Teacher Education

Emphasis is placed on providing preservice secondary science teachers with the opportunity to develop and present brief laboratory activities, teach selected concepts to peers, and prepare written activities that promote critical thinking and meet the needs of students with diverse learning preferences. Preparation of a 2-3 week teaching unit and 20 hours of field experience are required.

BIOL 4440 Cell and Molecular Biology - Three hours lecture, three hours lab (4)

Prerequisites: eight hours of Biology including 1110 or 2020 and one eight-hour Chemistry series or permission of instructor

The fundamental role of macromolecules and cell ultra structure in mediating such cellular activities as permeability, excitability, secretion, cell-cell communications, and energy transduction. The function of the cell at the molecular level is emphasized.

BIOL 4450 Biotechnology - Three hours lecture, three hours lab (4)

Prerequisites: senior status and permission of instructor

Instruction of students in the isolation and manipulation of nucleic acids for the construction and characterization of recombinant DNA molecules, either for the generation of genetic probes or the development of genetically engineered microorganisms. Emphasis is placed on the uses of these tools in research, biotechnology, and diagnostics.

BIOL 4500 Research – Six to twelve hours lab (2-4)

Prerequisites: permission of the instructor, minimum 2.5 cumulative GPA, minimum 3.0 average in Biology; 16 hours of 3000-4999 level Biology courses

This course is offered for those who desire to pursue a special study of some biological problems beyond what is possible in regular courses. The student is expected to select and plan a research problem and pursue it to some state of completion. The data are to be written in acceptable scientific form and available for a seminar. Maximum of eight hours.

BIOL 4540 Plant Ecology - Three hours lecture, three hours lab (4)

Prerequisites: eight hours of Biology (including BIOL 1110) and eight hours of Chemistry or permission of instructor

An overview of the field of plant ecology, including topics in plant population biology, species interactions, plant-environment interactions, and community structure. Investigations will take place in the field and in the laboratory.

272 Biology (BIOL)

BIOL 4560 Aquatic Macroinvertebrates - Three hours lecture, three hours lab (4)

Prerequisite: senior status or permission of instructor

An investigation of the diversity of aquatic macroinvertebrates through the study of the taxonomy, morphology, development, ecology, and evolution of selected taxa. Emphasis on freshwater forms of southeastern U.S.

BIOL 4600 Parasitology - Three hours lecture, three hours lab (4)

Prerequisites: eight hours of Biology, including 1110 or 2020 or permission of instructor

A survey of the parasitic protozoans, helminths, and arthropods affecting man and other animals. Emphasis is placed on morphology, life cycles, host-parasite relationships, methods of reproduction, transmission, and control.

BIOL 4620 Ornithology - Three hours lecture, three hours lab (4)

Prerequisites: BIOL 1110, 3060, and eight hours of chemistry or permission of instructor

A study of the evolution, taxonomy, identification, life history, and behavior of birds, with emphasis on local representatives.

BIOL 4700 Topics in Biology (1-3)

Prerequisites: BIOL 1110 and one year of upper division biology or permission of instructor

Special courses or workshops in selected topics. Specific topics may be developed by faculty or by students in consultation with a faculty member. This course may be repeated for a cumulative total of 9 credit hours.

BIOL 4810 Wildlife Management Internship (15)

Prerequisites: junior or senior status and permission of instructor

One semester of on-the-job experience in various phases of wildlife or fisheries management. Students are assigned as trainees to an APSU-approved agency.

BIOL 4820 Environmental Education Internship (15)

Prerequisites: junior or senior status and permission of instructor

One semester of on-the-job experience in planning and implementing environmental education programs. Students are assigned as trainees to an APSU-approved agency.

BUSINESS LAW (BLAW)

BLAW 3210 Business Law I (3)

Prerequisite: admission to the BBA Program

A study of the legal right and potential liabilities of business people. Included is an introduction to the nature of the legal system, the basic law contracts, the uniform commercial code (sales, commercial paper, secured, transactions), bankruptcy, and agency.

BLAW 3220 Business Law II (3)

Prerequisite: admission to the BBA Program

A study of the legal rights and potential liabilities of business people. Included are the basic legal principles of agency, partnerships, corporations, securities, personal property and bailment, real property, environmental controls, and estates and trusts.

BLAW 3300 Social, Legal, and Political Environment of Business (3)

Prerequisite: admission to the BBA Program

Presentation of law of an expanding social, legal, and political institution; the development and nature of the legal system; business crimes; the law of torts; constitutional limitations of regulatory powers; legislative, judicial, and administrative control of business activity through tax laws, antitrust laws, laws of employment, labor laws, and consumer and debtor protection laws.

CHEMISTRY (CHEM)**CHEM 1000 Chemistry for General Education - Three hours lecture, three hours lab (4)**

Study of the essentials of general, organic, and biological chemistry. A one semester course designed for nursing students (ADN only). Will not serve as prerequisite for any other chemistry course.

***CHEM 1010 Chemistry: Society and the Environment - Three hours lecture, three hours lab (4)**

The nature of matter and energy, the developments of chemical technology, and the interaction of this technology with humans and their environment. Topics include atomic structure, energy in matter, chemical bonding and molecular structure, solutions, acid-base reactions, and redox reactions. (Suggested for non-science majors.)

***CHEM 1020 Chemistry: Society and the Environment - Three hours lecture, three hours lab (4)**

Prerequisite: CHEM 1010

Basic organic chemistry, synthetic polymers, biochemistry, air and water pollution, consumer chemistry, and energy sources. (Suggested for non-science majors.)

CHEM 1110 General Chemistry - Three hours lecture, one hour recitation, three hours lab (5)

Corequisite: MATH 1730

Fundamental laws and theories; elements, compounds, and mixtures; atomic structure; kinetic theory and gas laws; chemical calculations; and chemistry of solutions.

CHEM 1120 General Chemistry - Three hours lecture, one hour recitation, three hours lab (5)

Prerequisite: CHEM 1110

Acids, bases, and salts; kinetics; electrochemistry; thermodynamics; descriptive chemistry; organic chemistry; nuclear chemistry.

CHEM 1710 Introduction to Chemistry and Physics - Three hours lecture, three hours lab (4) - (same as PHYS 1710)

Introductory integrated lab/lecture course in chemistry and physics. Included are hands-on and computer-based activities in the scientific method, astronomy, motion, energy, kinetic theory, waves and sound, atomic structure, electricity and magnetism, elements and periodic properties, chemical bonding, electrochemistry, environmental issues, and linkage to NASA via the Internet. (May not be combined with CHEM 1010 or PHYS 1010 to fulfill Natural Science core requirements.)

274 Chemistry (CHEM)

CHEM 1840 Chemical Mathematics - Two hours lecture (2)

Prerequisites: CHEM 1020 or 1120

Review of the mathematical problems of general chemistry.

CHEM 2940 Introduction to Research - One hour lab (1)

Prerequisite: permission of instructor

Experiment design including methods, laboratory techniques, and information resources in a specialized area. May be repeated one semester.

CHEM 3210 Quantitative Analysis - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 1120 or (CHEM 1020 and CHEM 1840), and high-school or higher level physics

Theory and application of gravimetric methods; acid-base, precipitation, and compleximetric volumetric titration; analytical separations, spectrophotometric, and electroanalytical techniques; statistical and computer tools.

CHEM 3220 Instrumental Analysis - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3210 or 3610; PHYS 2020 (also PHYS 2120 recommended)

Theory and application of instrumental techniques; spectroscopy, electrochemistry, and chromatography. Instrumentation electronics, signals, and noise. Scientific computing hardware, software, and programming.

CHEM 3440 Inorganic Chemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 1120 or (CHEM 1020 and CHEM 1840) and (CHEM 3500 or 3510)

Atomic structure and periodicity; crystal structure; descriptive chemistry of the elements; acid-base concepts; nonaqueous solvent systems; and environmental and medicinal awareness.

CHEM 3500 Brief Organic Chemistry - Three hours lecture, three hours lab (4)

Prerequisite: CHEM 1020 or 1120

A brief survey of organic functional groups, reactions, mechanisms, stereochemistry, and spectroscopy. Suitable for various agriculture and allied health curricula. Not recommended for chemistry majors.

CHEM 3510 Organic Chemistry - Three hours lecture, three hours lab (4)

Prerequisite: CHEM 1120 or (CHEM 1020 and CHEM 1840)

Functional groups (alkanes, alkenes, alkynes, alkyl halides, aromatic compounds), structure determination, stereochemistry, and spectroscopy.

CHEM 3520 Organic Chemistry - Three hours lecture, three hours lab (4)

Prerequisite: CHEM 3510

Alcohols, phenols, ethers, aldehydes, ketones, carboxylic acids and derivatives, dicarbonyl compounds, amines, lipids, carbohydrates, amino acids, proteins, nucleic acids, and polymers.

CHEM 3610 Physical Chemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 1120 or (CHEM 1020 and CHEM 1840) and MATH 1810 or MATH 1910

Kinetic theory and gases; first, second, and third laws of thermodynamics; spontaneity and equilibrium; colligative properties of solutions; phase diagrams and kinetics.

CHEM 3620 Physical Chemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3610, MATH 1920

Advanced thermodynamics, electrochemistry, advanced kinetics, atomic structure and the Schrodinger equation, molecular orbital theory, and the theory of molecular spectroscopy.

CHEM 3700 Forensic Science - Three hours lecture (3)

Prerequisites: CHEM 1120, 3500 or 3510, BIOL 1110, *completed* MATH core

Survey of scientific methods used in collection, preservation, and analysis of physical evidence. Included will be a study of common types of physical evidence obtained from crime scenes, their treatment at the modern crime laboratory, and the interpretation of scientific data to the legal community.

CHEM 3840 Chemical Literature - Three hours lecture/lab (3)

Prerequisite: CHEM 1020 or 1120

Major sources of chemical information and procedures for their efficient use.

CHEM 4000 Seminar - Two hours lecture/recitation (1)

Prerequisite: *permission of instructor*

Review of major areas of chemistry, visiting chemists' presentations, research, student presentations, career counseling, and interviewing for employment.

CHEM 4240 Advanced Instrumental Methods - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3220, 3610 and PHYS 2020 or 2120

Theory and practice of analytical instrument design. Circuits, test equipment, semiconductors, digital electronics, data acquisition, and computer programming. Design application examples in electrochemistry, spectroscopy, or chromatography.

CHEM 4300 Brief Biochemistry - Three hours lecture, three hours lab (4)

Prerequisite: CHEM 3500 or 3510

Designed for students in the allied health fields. Cellular processes including catalysis, metabolism, bioenergetics, and biochemical genetics.

CHEM 4310 Biochemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3520, BIOL 1010 or 1110

The structure/function relationship of biomolecules, enzyme catalysis, bioenergetics, and regulatory mechanisms.

CHEM 4320 Biochemistry - Three hours lecture, three hours lab (4)

Prerequisite: CHEM 4310

Continuation of 4310; examination of intermediary metabolism focusing on the processes of chemical transformation and regulation.

CHEM 4340 Advanced Biochemistry - One hour lecture, nine hours lab (4)

Prerequisite: CHEM 4320

Biochemical literature, special topics in biochemistry, and the principle and techniques of experimental biochemistry.

276 Chemistry (CHEM)

CHEM 4350 Physical Biochemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3610, 4320

Classical physical chemistry topics, focusing on applications relevant to the life sciences.

CHEM 4400 Teaching Science in High School - Three hours lecture (3)

Prerequisite: permission of department chair

For students preparing to teach chemistry. Objectives of high school chemistry; selection of content; methods of solving problems; laboratory procedure and equipment, teaching aids, and evaluation. Ten hours of field experience is required.

CHEM 4440 Advanced Inorganic Chemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3440, 3610 (also CHEM 3220 strongly recommended)

Bonding and structure; coordination chemistry including stereo chemistry, magnetism, spectra, synthesis, and reaction mechanisms; metallic bonding; and bioinorganic applications.

CHEM 4540 Organic Spectroscopy - Six hours lecture/lab (4)

Prerequisites: CHEM 3220, 3520, 3610

Theory, use, and interpretation of spectroscopic data from FT-IR, GC-MS, 1-D and 2-D multi nuclear FT-NMR, and UV-VIS.

CHEM 4550 Advanced Organic Chemistry - Three hours lecture, three hours lab (4)

Prerequisites: CHEM 3520, 3610

Advanced studies of bonding, stereo chemistry, acids and bases, mechanisms, and effects of structure on reactivity as related to organic reactions. Includes an in-depth study of organic reactions.

CHEM 4750 Forensic Laboratory Methods - Three hours lecture/lab (3)

Prerequisites: CHEM 3210, 3700, 4300 or 4310, and junior or senior status

Introduction to analysis methods used in forensic science. Theory and practical application for preparation and analysis of forensic samples.

CHEM 4790 Forensic Chemistry Internship (1-3)

Prerequisites: CHEM 3210, 3220, 3700, (4300 or 4310), and (BIOL 3940 or 4450), and junior or senior status

Internship experience providing practical exposure and experience in forensic analysis. Student will be assigned to a departmentally approved laboratory for a predetermined time period, which will determine the amount of credit earned. The host laboratory may require background checks and drug screening of student interns.

CHEM 4840 Selected Topics in Chemistry - Three hours lecture/lab (3)

Prerequisites: CHEM 1120 or 1840 and permission of instructor

Advanced topics in chemistry for majors and minors.

CHEM 4940 Elements of Research (1, 2, or 3 each)

Prerequisite: permission of instructor (also CHEM 2940 recommended)

Independent original laboratory research on individual projects in chemistry; chemical literature review; and presentation of results. May be repeated until project is completed; however, approval of department chair is required for more than eight hours.

CHEM 4990 Research Thesis (1)

Prerequisites: CHEM 4940 and permission of instructor

Preparation of a report on original research. Report must follow the guidelines of the ACS Style Guide and the Chemistry Department, and will be evaluated by a committee which will include the department chair or his/her designee.

*Suggested for non-science majors or science majors desiring a broad approach to general chemistry. Students electing this sequence may not take advanced chemistry courses (except CHEM 3500 or 3840) without taking CHEM 1840.

CLASSICS (CLAS)**CLAS 3210 Greek Literature in Translation (3)**

Prerequisite: ENGL 2030

A study of the major writers of ancient Greece in English translation. Topics may include various genres, judging translations, and the post-classical life of ancient Greek literature.

CLAS 3220 Latin Literature in Translation (3)

Prerequisite: ENGL 2030

A study of major writers of ancient Rome in English translation. Topics may include various genres, judging translations, and the post-classical life of ancient Latin literature.

CLAS 3240 The Classical Tradition in English Poetry (3)

Prerequisite: ENGL 2030

A study of the various poetic styles and traditions of Classical Greece and Rome and how they influenced the course of English poetry. Topics include ancient theories of poetry, examples of ancient poems, and specific English poets and poems from Chaucer to the 20th century.

CLAS 3310 Greek Mythology (3)

Prerequisite: ENGL 2030

A study of the major myths of ancient Greece and Rome. Topics include the interpretation of myth, differences among myths, legends, and folktales, and the use of myth after the Classical period.

CLAS 3400 Greek Archaeology (3)

An introduction to the archaeology of ancient Greece, with attention to sites from the Neolithic period through the Hellenistic period. Topics covered include developments in art and architecture, as well as the history of archaeological thought. Includes visits to sites when taught in Greece.

278 Classics (CLAS)

CLAS 3410 Greek Religion (3)

Prerequisite: ENGL 2030

Introduction to religious beliefs and practices of ancient Greeks, concentrating on Athens in the 5th and 4th centuries B.C., but exploring cult practices in other periods and areas under Greek influence. Major deities, rituals, festivals, cults, sanctuaries, and their context within civic life. Knowledge of Greek language not required.

CLAS 3420 Roman Archaeology (3)

Major archaeological sites of Italy from earliest times to the empire, with a focus on the monuments and topography of Rome. The development of archaeology in Italy and the history of archaeological thought are also studied. Includes visits to sites when taught in Italy.

CLAS 3430 Roman Religion (3)

Prerequisite: ENGL 2030

Introduction to religious beliefs and practices of the ancient Romans from the late Republic through the first centuries of the Empire. Major deities, rituals, festivals, cults, and sanctuaries of the Roman people; emperor cult; the emergence of Eastern cult. Knowledge of Latin not required.

CLAS 3510 Sport in the Ancient World (3)

Prerequisite: ENGL 2030

A history of the development of athletics in ancient Greece and Rome. Topics may include major athletic festivals, sites connected with athletics, the events, the literature of sport, and the politics of sport.

CLAS 3520 Women in Antiquity (3)

Prerequisite: ENGL 2030

A study of women in the ancient Greek and Roman world through literary, art historical, and archaeological material.

CLAS 3610 Greek Civilization (3)

Prerequisite: ENGL 2030

A study of the daily life and social systems of ancient Greece with a focus on Athens in the 5th century B.C., but with attention also given to rural areas and other city-states. Topics include government, sport, family life, slavery, science, mathematics, law, cult, etc. All readings in English.

CLAS 3620 Roman Civilization (3) (cross listed with ENGL 3040)

Prerequisite: ENGL 2030

A study of the daily life and social systems of Ancient Rome and the Roman Empire. Topics may include government, sport, family life, slavery, science, law, travel, religion, etc. All readings in English.

CLAS 4900 Topics in Classical Studies (3)

Prerequisite: ENGL 2030

Various topics in Classics may be studied, including such ideas as the clash of culture between Romans and Christians or Greeks and Barbarians, or such specific areas of Classics as paleography, epigraphy, etc.

COMMUNICATION ARTS (COMM)**COMM 1010 Fundamentals of Public Speaking (3) -
(online and on campus)**

Public speaking principles with emphasis on preparation and presentation of informative and persuasive speeches.

COMM 1030 Interpersonal Communication (3)

Communications' role in interpersonal relationships with emphasis on the application of theory in dyadic situations.

**COMM 1200 Introduction to Mass Communication (3) -
(online and on campus)**

Designed to introduce the student to the mass media. Course explores media as institutions in American society.

**COMM 1400 Introduction to Public Relations (3) -
(online and on campus)**

History, function, and practice of public relations with emphasis on persuasion, public opinion, mass Media, and their application to public relations.

COMM 1500 Introduction to Sports Broadcasting (3)

The course provides a strong foundation into the field of sports broadcasting. Students will explore the key issues that drive the sports broadcasting industry. Students will participate in the production of sports broadcasting.

COMM 1600 Introduction to Popular Culture (3)

Introduction to the basic theories and approaches to the study of popular culture, including the various media, literature, music, folklore, culture, society, and everyday life.

COMM 2000 News Reporting (3) - (online and on campus)

News gathering methods and the newspaper style book with emphasis on exercises in writing all types of news stories.

COMM 2020 Media, Society, and the Individual (3)

The historical development and current status of mass media are explored from a consumer's point of view with the goal of media literacy. Students develop global perspectives by encountering issues dealing with the relationship of the mass media to education, society, politics, economics, religion, family, and the individual.

COMM 2030 Social Issues and Advocacy (3)

Theory and practice of argumentation, examinations of propositions, evidence, reasoning, and refutation.

COMM 2100 Broadcast Equipment Operation and Technology (3)

An in-depth examination of current broadcast technology in radio, television, and cable and its use and function. Significant student time is required outside of regular class sessions. Must be taken concurrently with COMM 2150.

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COMM 2150 Broadcast Regulation and Practice Lab (1) (online)

An examination of broadcast regulation as it applies to the operation and practices of over-the-air media. This course is required for all communication majors or minors interested in working at station WAPX-FM. Must be taken concurrently with COMM 2100.

COMM 2200 Introduction to Sports Interviewing (3)

The course explores the sports interview. Students will examine theoretical and practical issues related to interviewing coaches, players, administrators, and others related to the sports industry.

COMM 2310 Small Group Communication (3)

The nature of communication processes occurring in a small group setting. Focus will be given to decision making in groups; gathering, assessing, and using information; leadership and power; and resolving conflict.

COMM 2400 Writing for the Electronic Media (3)

Prerequisites: COMM 1200, ENGL 1020

This course will cover formats and techniques of writing for the broadcast media. The course will discuss writing copy for the electronic media including general continuity, commercials, and information related copy such as public service announcements and editorials.

COMM 2500 Audio in Media (3)

An examination of audio technology and equipment used in a variety of media, to include radio, television, video, film, and music recordings. Special consideration to be given to legal and ethical constraints and considerations.

COMM 2720 Introduction to the Internet (3) - (online)

This course provides students with an orientation to the Internet as an everyday communication tool, medium impacting society, and high technology communication industry.

COMM 2920 Digital Photography (3)

Prerequisite: COMM 1200

Provides students with skills in the use and operation of digital cameras, and the processing of photographs using Adobe Photoshop for print and web journalism.

COMM 300A, B, C Lab (1 each)

Prerequisite: COMM 2000

Practical experience in routine reporting, investigative reporting, or newspaper design. Grading on a pass/fail basis.

COMM 3010 Integrated Corporate Communication (3) - (online and on campus)

Prerequisites: COMM 1200, *junior status or instructor approval*

Students will examine important corporate communication areas such as internal communication, advertising, public relations, integrated marketing communication, and new communication technologies. The course focuses on how these areas work together to achieve organizational objectives.

COMM 309A International Communication: Broadcast Media (3)

Prerequisites: junior standing and instructor approval

This course offers international perspectives to students in broadcast media. This study abroad experience is linked to selected upper division communication courses.

COMM 309B International Communication: Corporate Communication (3)

Prerequisites: junior standing and instructor approval

This course offers international perspectives to students in corporate communication. This study abroad experience is linked to selected upper division communication courses.

COMM 309C International Communication: Print and Web Journalism (3)

Prerequisites: junior standing and instructor approval

This course offers international perspectives to students in print and web journalism. This study abroad experience is linked to selected upper division communication courses.

COMM 309D International Communication: Media Technologies (3)

Prerequisites: junior standing and instructor approval

This course offers international perspectives to students in media technologies. This study abroad experience is linked to selected upper division communication courses.

COMM 309E International Communication: Public Relations (3)

Prerequisite: junior standing and instructor approval

This course offers international perspectives to students in public relations. This study abroad experience is linked to selected upper division communication courses.

COMM 3100 Desktop Publishing (3)

Prerequisite: COMM 2000 or 2400

Students develop the basic skills needed in electronic desktop publishing, including instruction in popular desktop publishing programs, providing hands-on experience. Course requires students to complete several practical projects including a newsletter and a brochure.

COMM 3200 Copyediting (3)

Prerequisite: COMM 2000

Instruction and practice in editing newspaper stories for style, meaning, and accuracy; in writing headlines; and in designing newspaper pages.

COMM 3210 Sports and Media (3)

Beginning with an examination of the historical role of media and sports, students will explore theoretical and practical changes that have shaped the sports media industry.

COMM 3320 Business and Professional Communication (3)

Prerequisites: COMM 1010 or 2030 or permission of instructor

Theories of persuasion are applied to business presentations. Interview techniques, group dynamics, and use of communication technology in the professional business setting.

COMM 3350 Broadcast Announcing (3)

Prerequisite: COMM 1200 or permission of instructor

A detailed and practical examination of broadcast techniques. Topics include voice use and improvement; coping with mic and camera fright; and various styles of announcing. Students will be required to demonstrate an improvement in announcing technique and ability.

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COMM 3400 Mass Communication Research Methods (3)

Prerequisite: COMM 1200

Application of qualitative and quantitative media research methods including survey research, focus groups, content analysis, and experimental studies. The course prepares students to conduct research for media studies, public relations, and marketing communication programs.

COMM 3410 Data Analysis and Mass Communications Research (3)

The purposes of this course is to apply some commonly used data analysis techniques in the field of Communication; develop a deeper appreciation of research strategies and analysis decisions; and provide the opportunity for practice in analyzing quantitative data.

COMM 3450 Broadcast News Writing (3)

Prerequisites: COMM 1200, 2000 or permission of instructor (keyboarding skill required)

Concepts of writing for broadcast media including format, style, and deadline requirements, and the use of radio and visual elements in the news. This course is writing intensive and requires student activities outside the classroom.

COMM 3550 Audio Production I (3)

Prerequisite: COMM 2100

Practical application required of students in the study of audio production for radio and television. Studio exercises which demonstrate the students audio production skills with voice, music, and sound effects in a broadcast studio setting.

COMM 3600 Radio Theatre Workshop (3)

Prerequisites: COMM 3550 or THEA 1300, permission of instructor

A workshop on theatrical productions delivered to a mass audience through radio. Special consideration will be given to the incorporation of sound effects. Study will include script writing, characterization, and time restraints in electronic media. Course will climax with an original production by students.

COMM 3620 Weather Broadcasting (3)

Prerequisite: COMM 2100, 2150

The course will provide the foundation for weather broadcasting. Students will learn the theory and skills necessary to produce quality weather briefings, weather segments, and weather news for television. Students will produce weather broadcasts in the field and in the studio.

COMM 3710 Corporate Media Scriptwriting (3)

Practical experience in creating scripts specifically tailored to corporate media/multimedia presentations.

COMM 3720 Authoring Web Pages (3)

Prerequisite: COMM 2720, permission of instructor

Skills needed in developing web pages, HTML and popular web design programs, elements of design, online publications, history of the Internet, censorship, ethics, and advertising on the web.

COMM 3730 Internet and Web Technology (3)

Students explore the technology of the Internet through study and practice involving networks, domain name service, IP addressing, online protocols, equipment, cabling, connections, servers, and various operating systems.

COMM 3740 e-Commerce Technology (3)

Prerequisite: COMM 3720 or 3800

Students explore and evaluate today's elements of electronic commerce including a focus on shopping cart programs, digital certificates, configuration and operation of secure servers, online financial transaction technology, and the development and implementation of e-business plans from an advertising, marketing communications, and public relations perspective.

COMM 3760 Video Production I (3)

Prerequisite: COMM 2100

Each student enrolled will be responsible for the development and production of several short video projects. Skills will be developed in all areas of television production and related concepts.

COMM 3800 Principles of Media Advertising (3)

Students learn the principles of advertising and the role of advertising communication in society and in organizations; The course reviews advertising and persuasive ethics and the impact of advertising on media; and offers a survey of various advertising types including print, broadcast, direct response, and new technology-based advertising efforts.

COMM 3810 Live Studio Production (3)

Students learn the principles of a live television production. Television and broadcasting elements will be incorporated that are necessary in creating and producing a live production.

COMM 3900 Motion Picture Production Workshop (4)

Prerequisites: COMM 2100, 3760 and permission of the instructor

Using portable and versatile video camcorders, students develop and complete short motion pictures. Includes camera operation, roles in motion picture production, sound and editing, and shooting video as film. Working in crews, students concentrate on one or more disciplines in production: writer, director, camera, sound, and editor.

COMM 3910 Media Relations (3)

The professional communicator's establishment of meaningful relationships with electronic and print media is studied, including a focus on ratings, news releases, press conferences, media buying, building a network of media contacts, special event planning, and the preparation of a comprehensive media relations plan.

COMM 3950 Methods of Film Analysis (3)

Prerequisite: junior standing or permission of instructor

This course begins with an examination of the elements of film form. The course will provide students with the terminology to analyze films and fortify students' analytical skills. Representative films are exhibited. Emphasis is placed on dramatic structure, types of film, film theory, and the function of film.

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COMM 400 A-H AP Magazine Production (2)

Students will create weekly live studio productions (12-14 shows per semester). Only one course per term. This course cannot be substituted for required courses or electives in the concentration. Grading on a pass/fail basis.

COMM 4010 Communication Theory (3) - (online and on campus)

Prerequisites: COMM 1010, 1200, and junior standing

In this capstone course, communication theories are examined and applied to relevant social issues (gender, diversity, violence, social change, and entertainment). Students analyze and critique research findings, theoretical paradigms, and media effects.

COMM 4020 Communication in Organizations (3) - (online and on campus)

NOTE: Students can take either COMM 4410 or 4020 (not both)

Study of communication in complex human organizations. Course relates communication to values, leadership, and uses of power in such organizational contexts as business, professional, social, educational, and political groups.

COMM 4110 Sports Broadcasting Workshop (4)

Prerequisite: approval of instructor

The course provides hands-on experience in the production, direction, and editing of live sporting events (basketball, football, baseball, softball, volleyball, etc.). Students will learn camera operation, digital switching, instant video replay, floor direction, and digital editing. A minimum of 60 hours outside the scheduled class period producing events are required.

COMM 4120 Sports Marketing (3)

The course will be an in-depth examination of the role of marketing in the sports arena. Students will examine the issues of product placement, camera view, uniforms, superimposed images, sports commentaries, personalities, etc.

COMM 4150 Feature Writing (3) - (online and on campus)

Instruction and practice in writing feature articles for newspapers, trade journals, and magazines.

COMM 422 A-H Live Events Production (2)

Students will gain experience in directing, editing, and producing of APSU and other activities. A minimum of 60 clock hours shall be required for academic credit. Only one course per term. This course cannot be substituted for required courses or electives in the concentration. Grading on a pass/fail basis.

COMM 425A, B, C Broadcasting Practicum (1 each)

Prerequisite: permission of instructor prior to registration

Special production projects in the radio or video studio to complement academic study in radio and television. Grading on a pass/fail basis.

COMM 426 A-H Communication Practicum (1)

Prerequisite: permission of instructor

Special audio or video production projects or professional communicator experiences, in a campus setting, which complement study in radio, television/cable, public relations, and corporate communication. Grading on a pass/fail basis.

COMM 4300 Topics in Popular Culture (3)

Indepth study of popular culture and American Society in everyday life through selected themes, topics, era and issues.

COMM 4310 Documentary Production (4)

Prerequisites: COMM 3760, 2100 and junior standing or permission of the instructor

Through viewings, lectures, class discussions, and hands-on activities, class members learn to research, write, interview, direct, shoot, and edit a documentary. The class works in small production teams, using camcorders and editing equipment, to produce mini-documentaries designed by each team.

COMM 433 A-H Digital Editing Production (2)

Students will create, direct, edit, produce, and evaluate digital media. A minimum of 60 clock hours will be required for academic credit. Only one course per term. This course cannot be substituted for required courses or electives in the concentration. Grading on a pass/fail basis.

COMM 4350 Broadcast Management (3) - (online and on campus)

Prerequisite: COMM 1200

Fundamentals of all aspects of programming: news, sports, drama, entertainment, and education; writing of scripts; and directing and editing of programs for the electronic media.

COMM 4400 Politics and Mass Media (3) (Same as POLS 4400)

Media's role in U.S. politics; influence of mass media on political opinions, elections, political participants, and public policy; and how political participants help shape the messages sent out by mass media.

COMM 4410 Conflict Resolution and Negotiation (3) - (online)

NOTE: Students can take COMM 4020 or 4410 (not both)

This course is designed to provide students with various approaches to conflict resolution and negotiation. The readings will focus on the role of conflict within an organizational setting. Case studies will be used to provide participants with actual conflict situations.

COMM 4444 Cultural Context of Communication (3)

This course integrates aspects of the Liberal Arts core with the effects of communication on culture and society; explores the role communication plays in creating social reality; and focuses on the media in relation to gender roles, portrayals of women and minorities, impacts of global media, violence, politics, law, the arts, religion, science, health, education, consumer behavior, and the family.

COMM 4450 Mass Media and Women (3)

Historical overview of women reporters and managers in U.S. media; examination of current portrayals of women and men in media news, entertainment and advertising; and discussion of research into the influence of these portrayals on audience attitudes.

COMM 4470 Race, Gender, and Mass Media (3)

Prerequisite: junior standing

Examination of current and historical portrayals of ethnic minorities and men and women in media news, entertainment, and advertising; and discussion of research into the influence of these portrayals on audience attitudes.

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COMM 4510 Communication and Public Opinion (3) (same as POLS 4510) – (online and on campus)

The purpose of this course is to provide an overview of the concept of “public opinion” and to explore the relationships between communication and public opinion. An important normative goal will be to explore ways to allow media messages to contribute to a healthy civic life rather than deviate from it.

COMM 4550 Audio Production II (3)

Prerequisites: COMM 3500 and permission of instructor

An intensive senior level course which requires students to demonstrate development in extensive and in-depth advanced level audio production requirements and projects.

COMM 4600 Media Ethics (3) - (online and on campus)

An in-depth examination of ethical principles and conduct as they apply to mass media. Topics covered include codes of ethics, forces which affect ethical decision making in media, consequences of ethical decisions, and media responsibility.

COMM 4650 Mass Media Law (3) - (online and on campus)

Prerequisite: upper division standing or permission of instructor

An intensive senior level course focusing on the development of our legal system, and the application of legal standards to media operations. Specific topics include the First Amendment, Libel, Privacy, Copyright, Political Programming, and Advertising.

COMM 470A, B, C Magazine Production (1 each)

Prerequisite: permission of faculty advisor for CAPSULE

Involvement with student publication processes, including all aspects of magazine production (online processes, layout, editing, desktop publishing, darkroom techniques, photography, and printing). Grading on a pass/fail basis.

COMM 4720 Multimedia Design (3)

Prerequisites: COMM 3720 and junior standing

Students create and edit audio files, video and images using Macromedia Flash and Fireworks, and both audio and videos are streamed into HTML files. Web pages are produced and published using HTML, dynamic HTML and JAVA scripts. The function of SSI, CGI scripts, and Plug-ins for web servers is also examined.

COMM 4730 Internet Content Management (3) - (online)

Prerequisites: COMM 1400

This survey and skills course teaches analysis and techniques in creating and managing web/electronic content. Areas covered include web-based public relations, advertising, marketing communication, and e-commerce. In addition, the social impact of these technologies is explored.

COMM 4760 Video Production II (3)

Prerequisite: COMM 3760

An intensive senior level video production course which requires advanced level video production skills, and uses both studio and field production techniques in the production of longer types of video production.

COMM 4790 Non-Linear Editing (3)

Prerequisite: COMM 3760

Advanced video-editing course for students who have completed basic production courses. The course includes in-depth examination of the technical, theoretical, and aesthetic factors involved in post-production.

COMM 480A, B, C Independent Study in Mass Communications (3 each)

Prerequisite: Communication Arts majors only with permission of instructor

Supervised readings and research projects in selected areas of communication. Open only to Communication Arts students with permission of the instructor.

COMM 4810 Public Relations Strategies (3)

Prerequisite: COMM 3910 or consent of the PR or Corporate Communication Coordinator

The management and counseling functions of public relations are explored through the use of communication strategies and tactics. A communication evaluation of organizational needs is done by case study analysis resulting in the development of a comprehensive communication plan for a model organization.

COMM 490A, B, C Communication Internship (3 each)

Prerequisites: Communication Arts majors only; upper division standing and permission of instructor required prior to registration

Practical experience in a professional communication medium to augment classroom activity intended for advanced students. Students are required to document internship activities according to department policy.

COMM 4910 Public Relations Campaign (3) - (online and on campus)

The establishment of public relations campaigns and an examination of each of its components within the public relations process of research, objectives, programming, and evaluation. Students actually design and implement comprehensive public relations campaigns and review campaign case studies.

COMM 4960 Film Scriptwriting (3)

Prerequisites: ENGL 1020, 1200, junior standing

This course will lead the student through a step-by-step process in advanced techniques of script analysis, creating story boards and writing successful treatments. The student will also receive extensive practice by writing scenes for various film categories: documentary, short feature, animated subjects, and full-length feature.

COMM 4970 Television Scriptwriting (3)

Prerequisites: ENGL 1020, COMM 1200, junior status

This course will lead the student through the current techniques or "formulas" of television writing. The students will receive extensive practice by writing scripts for both dramatic and comedic storylines in the 30 minute, 60 minute, and 2 hour formats.

COMM 4980 Television Criticism (3)

Prerequisite: junior or senior standing

The course will be a critical study of the literature of television. The course provides a view of television as a social and cultural institution and its impact on American society.

288 Communication Arts (COMM)

COMM 499ABC Special Topics in Communication (3)

Selected topics of interest to students concentrating their studies in Broadcast Media or Sports Broadcasting.

COMPUTER SCIENCE (CSCI)

CSCI 1000 Introduction to Computer Science (3)

History of computers and computing; social and ethical issues in computing; networks, communications, and the internet; computer hardware; system software; application software involving web browsers, word processing, spreadsheets, database management systems, and presentation software.

CSCI 1005 Computer Hardware, Software, and Programming Concepts (3)

This course covers functions and architecture of computer hardware and operating systems software; coverage of hardware and operating systems functions, installation, and configuration; extensive hands-on experience in computer setup, software installation, operation, and maintenance. An introduction to some programming and programming concepts are included. Three hours per week.

CSCI 1010 Introduction to Programming I (3)

History of computing, computer organization, computer applications, algorithm design, stepwise refinement of algorithms, structured programming using C++, array representation of data, processing of character data, text file processing, subprograms, and parameter passing.

CSCI 1015 Introduction to Computer Programming (3)

This is an introduction to application program design and coding using the Java language; the processes and methods for writing well-structured, well-documented, and well-performing computer programs to implement common information processing tasks; overview of computer problem-solving strategies, software design and documentation methods, and program coding techniques; data types, data structures, and program control structures.

CSCI 1016 Introduction to Visual Basic Programming (3)

An introduction to the basic concepts of application programming using the Visual Basic.Net language. Topics covered include problem solving, programming logic, object oriented programming, data types, windows forms and controls, data structures, exception handling, and program control structures.

CSCI 2010 Introduction to Programming II (3)

Prerequisite: CSCI 1010

Continuation of 1010. Additional topics in C++ programming including records, files, and dynamic memory allocation. Data structures including arrays, character strings, stacks, queues, linked lists, and binary trees. Each structure is presented in its abstract form and its C++ implementation.

CSCI 2060 ANS COBOL Programming (3)

Prerequisite: CSCI 1010

The COBOL programming language and its application to the solution of problems in the business field. Topics include structured programming, COBOL program structure, elementary COBOL language structure, control breaks, table processing, report generation, menu processing, sorting and merging of files, indexed, sequential, and relative files.

CSCI 2070 Programming in Selected Languages I (3)

Prerequisite: CSCI 1010

Detailed study of one or more modern programming languages. Emphasis placed on competent programming in the selected language(s), understanding the main application areas for the language(s), and history and basis for creation of the language(s).

CSCI 2080 Programming in Selected Languages II (3)

Prerequisite: CSCI 1010

Detailed study of one or more modern programming languages. Emphasis placed on competent programming in the selected language(s), understanding the main application areas for the language(s), and history and basis for creation of the language(s).

CSCI 3000 Data Modeling (3)

Prerequisite: CSCI 1015 or 1016

This course emphasizes the role of the database administrator in converting a conceptual model into a relational data model. The student will use business rules for developing entity-relationship diagrams for relational data models. Student will transform data models into relations and tables within a database using functional dependencies and normalization techniques. The course introduces VB and SQL scripting. The student will develop a database from a case study. Three hours per week.

CSCI 3005 Object-Oriented Programming (3)

Prerequisite: CSCI 2010

An introduction to object-oriented programming using the C++ and Java languages. Topics include C++ classes, encapsulation, inheritance, polymorphism, templates, container classes, object-oriented design, and the use of class libraries.

CSCI 3020 File Processing (3)

Prerequisites: CSCI 2010, 2060

An introduction to methods of efficiently organizing and accessing data on peripheral devices. Study of the structures used to store and manipulate data on external devices and the techniques used to manipulate this data.

CSCI 3110 Computer Systems (3)

Prerequisite: CSCI 2010

Topics include elementary assembler language programming, addressing techniques, indexing, calling of assembly language routines from high-level languages, object libraries, macros, macro libraries, bitmanipulation instructions, file input/output procedures, program segmentation, and linkage.

290 Computer Science (CSCI)

CSCI 3200 Principles of Information Security (3)

Prerequisite: CSCI 1005 or 1010

An introduction to the technical and management aspects of information security. This course provides the foundation for understanding issues associated with security in computing, including security threats and controls, protection of computer systems and data, and planning for security through the development of an information security strategy.

CSCI 3250 Data Structures and Algorithm Analysis (3)

Prerequisite: CSCI 2010

Advanced data structures and their computer implementation. Binary trees, general trees, graphs, sorting algorithms, merging algorithms, hash codes, hash tables, and file and memory allocation procedures.

CSCI 3300 Introduction to Web Development (3)

Prerequisite: CSCI 1015 or 1016

This is a survey of techniques and tools for developing basic web pages for delivery of text and graphic information. Focus will be on page markup languages, page design principles, page layout techniques, markup language syntax, and page styling methods. Three hours per week.

CSCI 3400 Computer Organization I (3)

Prerequisite: CSCI 2010

Basic digital circuits, Boolean algebra and combinatorial logic, data representation and transfer, digital arithmetic, digital storage and accessing, control functions, input/output facilities, system organization and reliability, computer structure, and programming at the machine language and assembler language levels.

CSCI 3410 Computer Organization II (3)

Prerequisite: CSCI 3400

Continuation of 3400. Continued study of micro-processors, advanced logic design, sequential circuits, digital and switching waveforms, encoding of information, number representation and arithmetic, logical operations, computer architecture for very large and very small computer systems, memory systems, and CPU design.

CSCI 3500 Theory of Automata, Formal Languages, and Computation (3)

Prerequisite: MATH 3000 or CSCI 3400

Fundamental concepts in Computer Science, including finite-state machines and regular expressions, context-free grammars and languages, push down automata, Turing machines, undecidability, and computational complexity.

CSCI 3600 Computer Ethics (3)

Prerequisites: CSCI 1005 or 1010

Study and analysis of the social, legal, and ethical issues that arise from the presence of computers in society. Problems are posed and solutions discussed from the viewpoint of the computer professional. Topics include computer viruses, spyware, spam, life-critical systems, and privacy issues.

CSCI 3700 Data Communications and Networking (3)

Prerequisite: CSCI 1005 or 1010

Fundamental concepts, definitions, and theory of telecommunications and networking with practical applications. Special emphasis is on Internet Technology, including the study of TCP/IP protocols. Other topics include LAN and WAN management, security, and quality of service issues.

CSCI 3760 Linux Network Operating System Administration (3)

Prerequisite: CSCI 3700

This course covers the fundamental Linux system administration and Linux network administration principles. Topics covered include: directory tree, file and memory management, system monitoring, user accounts, TCP/IP configuration, name service and address translation, firewall, IP accounting, email service, and web services.

CSCI 3770 Microsoft Windows Network Operating System Administration (3)

Prerequisite: CSCI 3700

This course covers the fundamental Windows system administration and Windows network administration principles. Topics covered include directory structures, file management, user management, domains, group policy, and networking services provided as part of Windows, including IIS, RRAS, DNS, WINS, and DHCP.

CSCI 3870 Wireless Communications and Networking (3)

Prerequisite: CSCI 3700

This course covers data communications as well as voice communications in wireless networks. Topics covered include wireless standards in data and voice communications, radio frequency technologies, wireless LAN hardware and software, wireless network design, installation, and management including security and site surveys.

CSCI 3900 Internship (3)

Prerequisite: permission of department chair

Designed to provide academic credit for meaningful computer-related experience gained while working in a business or industry. Satisfactory employer evaluation and detailed written documentation of the work performed is required. Pass/fail registration required.

CSCI 4000 Advanced Web Development (3)

Prerequisite: CSCI 3300

This course covers advanced coverage of browser-based Web processing; coverage of the browser document object model, dynamic formatting and styling, browser scripting languages, user interaction and personalization, data validation, and processing of browser-side data structures. Three hours per week.

CSCI 4050 Multimedia Tools and Techniques (3)

Prerequisite: CSCI 3300

This course provides the student with hands-on experience using current versions of popular multimedia software on the PC. Static and dynamic images are created, manipulated, and integrated into applications. Video conferencing and streaming audio and video are also examined. Three hours per week.

292 Computer Science (CSCI)

CSCI 4100 Operating Systems and Architecture (3)

Prerequisite: CSCI 3400

Detailed study of systems programming, general operating systems concepts, memory management, auxiliary storage management, process control, multiprocessing, processor management, networking, performance monitoring, and computer system security.

CSCI 4160 Advanced Technologies (3)

Prerequisite: CSCI 4000

This is an advanced course in interactive web programming, emphasizing techniques of graphical programming using new techniques. Currently, the JAVA development environment and the object-oriented nature of JAVA are reviewed. The student will learn the use of advanced JAVA I/O techniques, including exception handling, URL streams, threads, image processing, and client/server programming. Various applet examples are completed as lab exercises. A student web project will be completed as part of the course. Three hours per week.

CSCI 4230 Programming Languages (3)

Prerequisite: CSCI 3250

Formal definition of programming languages including specifications of syntax and semantics. Simple statements including precedence, infix, prefix, and postfix notation. Global properties of algorithmic languages including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines, and tasks.

CSCI 4350 Compiler Design (3)

Prerequisite: CSCI 3250

Review of program language structures, translation, loading execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design. A simple compiler is designed and implemented as a group project.

CSCI 4390 Introduction to Java Server Pages (3)

Prerequisite: CSCI 4000

This is an introduction to server-based Web processing within a Java Server Pages (JSP) development environment; coverage of server-side scripting elements, database access methods, servlets, dynamic content, standard and custom actions, authentication, and JavaBeans. Three hours per week.

CSCI 4400 Principles of Database Management (3)

Prerequisite: CSCI 2010 or 3300

Database development process, data structures, and database methods of file storage, primitive databases, relational model approach to database management, hierarchical, network and object oriented models, data security, and discussion of sample databases such as Microsoft Access and Microsoft SQL Server.

CSCI 4410 Database Administration Using DB2 (3)

Prerequisite: CSCI 4400

This course teaches topics of database administration including database design, database implementation, user support, change-control procedures, planning for growth, and technology evaluation using DB2 database management system. Three hours per week.

CSCI 4420 Database Administration Using MS SQL Server (3)

Prerequisite: CSCI 4400

This course teaches topics of database administration including database design, database implementation, user support, change-control procedures, planning for growth, and technology evaluation using MS SQL Server. Three hours per week.

CSCI 4430 Database Administration Using Oracle (3)

Prerequisite: CSCI 4400

This course will teach basic database features and administrator operations using the Oracle Database Management System. This will include components, tools, instances, tables, indexes, and profiles.

CSCI 4450 Introduction to Artificial Intelligence (3)

Prerequisite: CSCI 3250

Progress and procedures in the field of artificial intelligence. Natural language models, machine translation, simulation of belief systems, models of memory and cognition, games and game playing, winning strategies, and robotics.

CSCI 4500 Introduction to Computer Networks (3)

Prerequisite: CSCI 4100

Computer network concepts and their applications in example networks. A study of the layers of the Open Systems Interconnection (OSI) reference model. Particular attention will be given to applications using available on-campus networks.

CSCI 4520 Network Security (3)

Prerequisite: CSCI 3700

An examination of the tools, techniques, and technologies used in the securing of information assets via networks. Topics covered include network operating system security, security of transmissions, firewall configurations, vulnerabilities and hardening of network components, Web and distributed system security, and procedures dealing with storage and disposition of sensitive data.

CSCI 4550 Computer Graphics (3)

Prerequisites: CSCI 2010 and MATH 3450 or MATH 2110

Computer graphics for computer science or mathematics students with emphasis on implementation details, algorithms, transformations, coordinates, color models, interactive graphics, and graphics standard languages. Raster and vector graphics, color and black and white, will be studied using various hardware devices. PostScript and device-dependent languages may be explored.

CSCI 4600 Software Design and Development (3)

Prerequisite: CSCI 3250

Techniques and procedures applicable to the design and development of large-scale software systems. Programming teams, program walk-through, system evaluation, system review. A software system is designed and written as a team project during the course.

294 Computer Science (CSCI)

CSCI 4610 Advanced Visual BASIC Programming (3)

Prerequisite: CSCI 2080

This course introduces advanced Visual Basic controls and programming techniques that are used in developing high-level windows applications. Topics that will be covered include advanced database handling; data validation routines; error handling procedures; keyboard events; developing menus, toolbars, and status bars; drag and drop events; graphics and animation handling; ActiveX controls dynamic link libraries (DLL); object linking and embedding (OLE); and object oriented (OO) techniques. Three hours per week.

CSCI 4630 Web Server Administration (3)

Prerequisite: CSCI 3300

An introduction to the setup and maintenance of Web server software. Both Internet Information Server (IIS) and Apache will be used as examples.

CSCI 4650 Introduction to Active Server Pages (3)

Prerequisite: CSCI 4400

This is an introduction to server-based Web processing within an Active Server Pages (ASP) development environment; coverage of browser- and server-based scripting languages, data structuring and data exchange languages, file and database access methods, dynamic page styling, and other technologies for creating dynamic, data-driven Web sites. Three hours per week.

CSCI 4670 Network Applications (3)

Prerequisite: CSCI 3700

This course introduces a variety of network applications and services. Topics covered include WWW and HTTP, FTP, Telnet and SSH, Email (POP3 and SMTP), Usenet, P2P, VNC, remote access, chat room, and instant messaging service.

CSCI 4700 Symbolic Logic for Mathematics and Computer Science (3)

Prerequisites: MATH 1920 or MATH 1820 and CSCI 2010

Logics used in mathematics and computer science. Propositional calculus, predicate calculus, model theory, and logics applicable to computer programming and computer languages.

CSCI 4750 Systems Analysis and Design (3)

Prerequisites: CSCI 3020 or 4400

Detailed study of the life cycle of a business information system. Techniques used in the study, design, development, and implementation phases of the life cycle are presented. A complete system, designed and developed as a small-group project, is constructed during the course. Emphasis is placed on the development of a simple but functional system.

CSCI 4770 Advanced Data Communications and Networking (3)

Prerequisite: CSCI 3700

This course is an advanced study of telecommunications and networking. Topics include an in-depth study of TCP/IP protocols, switching, routing, WAN technology, network administration, and emerging technologies.

CSCI 4800 Computer Science and Information Systems Seminar (1)

Prerequisites: senior standing and permission of instructor

Problem solving using techniques from all areas of the Computer Science and Information Systems curriculum. Research on an assigned topic culminating in a written paper and oral presentation. Review of all basic areas of study in preparation for entry into the job market. Overview of job opportunities in the computer field.

CSCI 4900 Special Problems in Computer Science (3)

Prerequisite: advanced standing in computer science

Selected topics of general interest.

CSCI 4910, 4920, 4930 Topics in Computer Science (1 each)

Prerequisite: advanced standing in computer science

Selected topics of particular interest.

CSCI 4940 Internship in Information Technology (3)

Prerequisites: Permission of department chair

This is a work/study course in Information Technology; student work in an appropriate position and on an appropriate project in information technology for an assigned employer; work project is under direction system evaluation, system review. A software system is designed and written as a team project during the course.

DANCE (DANC)**DANC 1035 Introduction to Dance (3)**

For majors and non-dance majors, a study of art and language of dance through lectures, discussions, concert attendance, and studio practice. Designed to develop awareness and insight of this art form through discussion, observation, writing, and movement experience.

DANC 1350 Ballet I (3)

Introduces elements of ballet technique and vocabulary. Stresses learning elementary positions and movements characteristic of this highly stylized art form.

DANC 1450 Modern Dance I (3)

A studio class for students with concentration stress in concert modern dance. Emphasis upon correct alignment; development of strength, rhythmic and dynamic activity, as well as spatial and locomotor patterns.

DANC 1500 Jazz Dance (3)

Prerequisite: DANC 1035 or approval of instructor

Contemporary jazz dance technique with practical application of the elements of jazz style, including alignment, stretch, strength, isolations, stylistic movement combinations, and basic dance vocabulary. Course is appropriate for the student with little or no previous experience in jazz dance.

296 Dance (DANC)

DANC 2355 Ballet II (3)

Prerequisite: DANC 1350 or approval of instructor

An elaboration and extension of principles addressed in Ballet I. Greater emphasis on center adagio and allegro sequences and exploration of balletic style. Students will continue to experience the flow and continuity of ballet sequences and become more familiar with the stylistic, historical, theoretical, and aesthetic bases of the form.

DANC 2450 Modern Dance II (3)

Prerequisite: DANC 1450 or approval of instructor

Studio class designed to increase skills, range, and artistry in modern dance techniques. Emphasis will be placed on movement proficiency and combinations.

DANC 3040 History and Philosophy of Dance (3)

Designed for majors and non-majors, this course will present a comprehensive view of the evolution of dance as an art form. It is designed to develop awareness and insight through lecture, discussion, music, video, observation, and writing about dance.

DANC 3250 Dance for Musical Theatre (3)

Choreographic components for theatre actors to stage musical sequences in theatre, basic, period, and stylistic dance combinations and strategies.

DANC 3400 Dance Composition (3)

Prerequisite: approval of instructor

This course introduces the skill of manipulating the elements of time, space, and force in relation to the human body to communicate artistic intent. The course will explore movement invention and the craft of choreography using structural devices such as theme and development, chance sequencing, retrograde, and canon.

DANC 3450 Advanced Dance Techniques (3)

Prerequisites: DANC 2350, 2450 or approval of instructor

Intensive development and refinement of dance technique. Focus is placed on artistic concerns appropriate to advanced level dances.

DANC 385A-H Dance Practicum (1)

The practical application, on an individual basis, of previously studied theory and the collection of data for future theoretical interpretation. Credit is given for performance activities and participation.

DANC 3880 Costuming for Dance (3)

Basic design theory emphasizes line, shape, color, and texture, followed by a discussion of style. Includes more practical work of draping, dyeing, and patterning. Teaches students to measure and research.

DANC 460A-F Special Topics in Dance (3)

Prerequisite: DANC 1035 or approval of instructor

Concentrated study of aspects of dance or related fields based on particular interests and training of the instructor and/or demonstrated needs of the students. Course title will be announced in advance, and course may be repeated as content changes.

DECISION SCIENCES (DSCI)**DSCI 3410 Production Operations Management (3) (cross listed with ENGT 3610)**

Prerequisite: QM 3110 or MATH 3250

Methods of efficient plant management, including production scheduling, inventory control, forecasting, linear programming, transportation, statistical analysis, CPM, PERT, simulation, quality control, work management and maintenance.

DSCI 3510 Managerial Dynamics and Simulation (3)

(cross listed with ENGT 3660)

Prerequisite: DSCI 3410

Dynamic phenomena surrounding business and engineering environment through simulation techniques on computer. Problems in queuing theory, inventory processing, sales forecasting, advertising, random number generators, flow charting, and stochastic nature of equations, Buffon's Needle, and discrete and continuous systems.

DSCI 3530 Statistical Quality Control (3) (cross listed with ENGT 3650)

Prerequisite: DSCI 3410

Basic principles and techniques of quality control and its applications to manufacturing process. Emphasis on process control, sampling inspections, reports, and records based on statistical analysis.

DSCI 4410 Operation Research (3) (cross listed with ENGT 4610)

Prerequisite: DSCI 3410

Continuation into the advanced sections of production/operations management. Stochastic inventory, integer, non-linear mathematical, and goal programming; effects of quality control, plant layout, and queuing on the overall production process; sensitivity analysis and simulation.

DSCI 4500 Business and Economic Forecasting (3)

Prerequisite: DSCI 3410

Factors contributing to business fluctuations and description of the features of U.S. cycles, alternative models of business cycles, basic economic indices and indicators, and econometrics models and forecasting techniques.

EARLY CHILDHOOD (EC)**EC 2200 Introduction to Early Childhood Education (4)**

Historical and theoretical influences upon early childhood education. Legal, ethical, health and safety, and professional issues impacting the care and education of children, birth through age eight. Orientation to early childhood teacher education licensure program and the early childhood profession, including leadership and measurement of programs for young children and their families. Includes observation of early childhood programs.

EC 3010 Early Literacy Development (3)

Prerequisite: must meet Milestone I requirements (candidacy status)

Survey of theoretical, conceptual, and empirical materials on language development in children. Implications for literacy development and the teaching of reading and writing will also be required.

298 Early Childhood (EC)

EC 4020 Developmentally Appropriate Practice: K-3 (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Survey of theoretical and practical issues related to developmentally appropriate practice including social constructivism, thematic and literature-based instruction, curriculum integration, and the role of the physical and social environment in teaching and learning. Emphasis on social studies curriculum, K-3.

EC 4030 Evaluation and Assessment: Pre-Kindergarten-Grade 3 (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Student assessment, evaluation of programs, and processes for parent involvement will be addressed. Emphasis on observation and documentation and other authentic strategies. Includes field-based experience with children.

EC 4040 Problem Solving: Pre-Kindergarten (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Develops competency in the selection and use of materials, resources, and instructional strategies to foster problem solving and higher order thinking skills in pre-kindergarten children. Development of early science, math, and social skills will be emphasized. Includes field-based experience with children.

EC 4080 Child Guidance and Classroom Management (3)

Prerequisites: must meet Milestone II requirements (provisional admission status); must be taken in semester prior to student teaching.

Develops competency in the selection and use of materials, resources, and instructional strategies to foster problem solving and higher order thinking skills in pre-kindergarten children. Development of early science, math, and social skills will be emphasized. Includes field-based experience with children.

EC 4140 Applications of Developmental Theory (3)

Prerequisite: EC 4020

Develops competency in the selection and use of materials; in the use of instructional strategies; and in the teaching of specific skills. A portion of the course is field based.

EC 4160 Learning Styles of the Culturally Different (2)

Give the student appropriate experiences in (1) developing an awareness of the learning styles; (2) investigating materials and methods designed to aid in the learning process; and (3) formulating objectives and techniques for working with the parents of the culturally different child.

ECONOMICS (ECON)

ECON 2000 Contemporary Economics (3)

Introduction to current economic events; relates current happenings to past events to understand the basic economic forces that influence our system.

ECON 2010 Principles of Macroeconomics (3)

Principles of pricing, stabilization, and growth in a modern capitalist economy; supply and demand; employment theory and fiscal policy banking systems; and monetary policy, economic growth, and fundamentals of the international economy.

ECON 2020 Principles of Microeconomics (3)

ECON 2010 is *recommended*

Principles of the economics of the firm, pricing of resources, production and costs, firm behavior in alternative markets, and analysis of current economic problems.

ECON 3010 Intermediate Microeconomics (3)

Prerequisite: ECON 2020

Concepts of value and distribution under alternative market condition; elasticity; allocation of resources and price determination; analysis of consumption; and marginal utility.

ECON 3020 Intermediate Macroeconomics (3)

Prerequisite: ECON 2010

Macroeconomic problems of inflation and unemployment; statistics (GDP and the Consumer Price Index) and theory (Classical, Keynesian, and Monetarist views); and public policies.

ECON 3210 Money And Banking (3)

Prerequisite: ECON 2010

The nature and function of money; organization and operation of monetary and financial systems; determinants of money supply and demand; the conduct of monetary policy and its impact on employment, income, and price level.

ECON 3220 Managerial Economics (3)

Prerequisite: ECON 2010 (QM 3110 and junior standing recommended)

Environment of the firm; intra-firm decision problems; analytical concepts and methods; partial-equilibrium analysis of the product markets; analysis of factor productivities, cost, pricing principles, and practices; and estimation of demand and cost primarily from the standpoint of managers in the private sector.

ECON 3510 Government and Business (3)

Prerequisite: ECON 2010

Relationships between government and business; government efforts to enforce competition to regulate public utilities; and protect the special interests of farmers, workers, and consumers.

ECON 3960 Urban Environments and Economics (3) (cross listed with GEOG 3960)

An examination is made of the urban environments. Consideration is given to environmental problems.

ECON 3980 Economic Geography (3) (cross listed with GEOG 3980)

A systematic examination of the structure of dynamic global economic activities. Economic theory is emphasized for review of geographic patterns of resource utilization.

ECON 4000 Issues in Free Enterprise (3)

Prerequisite: junior standing or admission to the BBA Program

Special topics in the area of free enterprise; topics may vary from time to time according to the specialty of the occupant of the Chair of Excellence in Free Enterprise in the BBA Program.

300 Economics (ECON)

ECON 4210 Public Finance (3)

Prerequisites: ECON 2010 and junior standing

Role of government and its functions and limitations in a market; provision of goods and services by all levels of government; instruments of taxation evaluated according to efficiency and equity criteria; and contemporary public sector issues.

ECON 4310 Labor Economics (3)

Prerequisites: ECON 2020 and junior standing

Economics of the labor market and labor relations; theories of wages and employment; determination of unemployment; investment in human capital; discrimination; public policy toward the labor market; role of labor unions; practices; procedures; legal foundations; legal structure associated with collective bargaining; form and content of the labor contract; grievance machinery; and mediation and arbitration institutions.

ECON 4410 History of Economic Thought (3)

Prerequisites: ECON 2010, 2020, and junior standing

Origin and evolution of economic ideas with emphasis on historical context, problems, and nature of the solutions; historical survey of the economic doctrines of the physiocratic, classical, neoclassical, historical, Keynesian, and other schools of economic thought.

ECON 4610 International Economics (3)

Prerequisites: ECON 2010 and junior standing

Process of international commerce. Theory of trade and exchange rates; institutional and legal environment; current policy issues; analysis of international trade and finance; causes and effects of protection; balance of payments; foreign exchange market; international monetary and financial systems; and international economic cooperation and competition.

ECON 490A, B, C Special Problems in Economics (1, 2, 3)

Prerequisites: senior standing and permission of instructor

Teacher supervised independent study of economics topics (out-of-classroom) of mutual interest to the student and faculty member.

EDUCATION (EDUC)

EDUC 2100 Foundations of Education (2)

Prerequisite: sophomore standing

The social, philosophical, and historical background of education. The course will contain lecture/discussion and a required field based experience. The Live Text electronic portfolio is introduced.

EDUC 3040 Instructional Technology (3)

Prerequisites: EDUC 2100 or permission of instructor; Milestone 1 requirements (candidacy status)

Competency in microcomputer applications in the instructional process, including the use of instructional software, media integration, and use of micros in classroom management.

EDUC 3070 Instructional Strategies (3)

Prerequisite: Milestone I requirements (candidacy status)

Competencies in selected generic teaching skills, such as mastery learning, questioning, positive reinforcement, pupil evaluation, etc. Required prior to methods block or secondary education methods courses (4400's). A field experience is required.

EDUC 3090 Elementary School Curriculum, Methods, and Philosophy (3)

Prerequisite: Milestone II

This course focuses on the principles of child development, effective and differentiated instructional strategies for diverse young learners, standards-based curriculum integration, instructional planning as assessment. A field experience is required.

EDUC 4040 Teaching Social Studies: K-6 (3)

Prerequisites: Milestone II requirements (provisional admission status)

The objectives, problems, and instructional techniques in teaching social studies, grades K-6. A school-based teaching experience is required.

EDUC 4080 Classroom Organization and Management (3)

Prerequisite: Milestone II requirements (provisional admission status)

Theories of classroom organization and management and their application. A field experience (including preclinical experience) is required. Must be taken semester prior to student teaching.

EDUC 4090 Middle School Methods and Curriculum (3)

Prerequisite: Milestone II requirements (provisional admission status)

Curriculum, program, and philosophy uniquely focused on the middle grades student. A field experience is required.

EDUC 4160 Teaching Diverse Students (3)

Prerequisite: Milestone I requirements (candidacy status)

Introduces students to the concept of multicultural education as an idea, an educational reform movement, and a process, incorporating the principle that all students, regardless of their gender, disability status, social class, socioeconomic condition, ethnic, racial, cultural, or sexual identity should have an equal opportunity to learn in school.

EDUC 4270 Classroom Evaluation and Assessment (3)

Prerequisites: Milestone I requirements (provisional admission status); EDUC 3070 is a prerequisite or corequisite

Pupil assessment; evaluation of programs; self-assessment; differentiated instruction; con-temporary assessment strategies; and related research applications.

302 Education (EDUC)

EDUC 4410 Student Teaching: Grades K-3 (5)

EDUC 4510 Student Teaching: Grades 4-6 (5)

EDUC 4610 Student Teaching: Grades 7-8 (5)

EDUC 4710 Student Teaching: Grades 9-12 (5)

Prerequisite: Milestone III requirements (full admission status)

Teacher candidates will teach a full semester under the direction of a University mentor and mentor teachers. Experience at two grade levels and in varied settings is required.

According to state directives, the student teacher must receive prior written permission from the Director of the School of Education to enroll in coursework other than student teaching during the semester. 4310, 4410, 4510, 4610, and 4710 are corequisites with an intensive seminar (EDUC 4950, 2 credits) in which portfolio-based and other summative assessment is accomplished. The seminar also addresses relevant issues in professional education, as well as licensure procedures and induction into the teaching profession. Pass/Fail grade.

EDUC 4720 Special Topics in Education (1, 2, 3)

Prerequisite: permission of Director of School of Education

Used to satisfy special needs of groups or independent study activities for individuals.

EDUC 4730 Problems in Education (1, 2, 3)

Prerequisite: permission of Director of School of Education

Used to satisfy special needs of groups or individuals who have unusual or atypical requests.

EDUC 4950 Teaching Seminar (2)

This course is a capstone seminar required during the clinical semester. The course will focus on formative and summative assessment; completion of program and licensure requirements; professional development; and orientation and induction into the teaching profession. The Live Test electronic portfolio will be completed and defended during the seminar. Course includes small group and whole group discussions, guest speakers, and self-reflection.

ENGLISH (ENGL)

ENGL 1010, 1020 English Composition I and II (3 each)

Development of the student's writing skills through a process of thinking, researching, planning, writing, reviewing, revising, and editing expository essays.

Note: ENGL 1010 is a prerequisite for ENGL 1020. ENGL 1010 and ENGL 1020 are prerequisites for all other English courses except English as a Second Language (ENGL 1210, 1220).

ENGL 1100 Technical and Report Writing (3)

Styles and forms of technical writing designed for students whose jobs will require the writing and producing of a variety of technical documents. Topics covered include the nature of technical language, audience-analysis, data collection and organization, and page design, with practice in the writing of investigative reports, proposal, technical manuals, newsletters, and promotional materials. Students are introduced to word-processing, desktop publishing, and graphics computer programs. Exercises simulate actual working conditions.

ENGL 1210, 1220 English as a Second Language (4 each)

Prerequisites:

(1) Status as an international student whose native language is not English;
(2) The minimum proficiency in English that is required of foreign students for admission to the University (500 minimum score on TOEFL). This is a one-year series of courses designed to meet the special linguistic needs of international students or permanent residents whose native language is not English. ENGL 1210-1220 do not satisfy the communication requirement in the Liberal Arts core, nor do they count toward graduation. ENGL 1210-1220 do NOT satisfy the ENGL 1010 and ENGL 1020 requirement, but they do count toward semester accumulated hours.

ENGL 1210: Development of English language skills: reading, writing, speaking, and listening.

ENGL 1220: Focuses on composition, the process of organizing thoughts, writing, revising, and editing. Works of established writers are analyzed and discussed.

ENGL 2030 Traditions in World Literature (3)

An overview of world literature that will include works from different periods. This course is a prerequisite to all ENGL upper division literature courses.

ENGL 2200 Introduction to Creative Writing: Poetry and Fiction (3)

Writing and analysis of poetry and short stories.

ENGL 3010 Studies in American Literature I (3)

Advanced analysis and background study of American texts written before 1866.

ENGL 3020 Studies in American Literature II (3)

Advanced analysis and background study of American texts written after 1865.

ENGL 3100 Studies in British Literature I (3)

Advanced study of medieval and early modern British literature with an emphasis on critical and theoretical approaches.

ENGL 3130 Studies in British Literature II (3)

Advanced study of 19th and 20th century British literature with an emphasis on critical and theoretical approaches.

ENGL 3150 Shakespeare (3)

Reading of selected plays and poems including a comedy, a tragedy, a history play, and a romance. The choice of works will be made after class has been surveyed. Some attention will be given to the life and times of Shakespeare.

ENGL 3200 Expository Writing (3)

Instruction in the art of expository writing that introduces students to the aims of discourse; the methods for applying rhetorical schemes and tropes, including the use of symbolism; the use of grammar in the service of style; academic formats and styles of writing; and the paradigms for various types of writing projects.

304 English (ENGL)

ENGL 3210 Writing Fiction (3)

Prerequisite: ENGL 2200

The student is guided individually and as a member of a group in the writing and analysis of short stories.

ENGL 3220 Writing Poetry (3)

Prerequisite: ENGL 2200

The student is guided individually and as a member of a group in the writing and analysis of poems.

ENGL 3310 Stories for Creative Writers (3)

Exposes readers and writers of fiction to a body of classic short stories by Americans, other writers of the English language, and non-English-speaking writers in translation.

ENGL 3320 Poetry for Creative Writers (3)

Exposes readers and writers of poetry to a variety of contemporary poems by Americans, other writers of the English language, and non-English-speaking writers in translation.

ENGL 340A Arthurian Romance (3)

Various versions of the Arthurian legend from the Middle Ages to the 20th century.

ENGL 340B Literature of the American West (3)

Representative works on the American West with attention to the historical, cultural, and psychological significance of this genre.

ENGL 340C Modern Southern Fiction (3)

Southern writers with special emphasis on those of the 20th century.

ENGL 340D Mythology and Folklore (3)

The role of mythology in literature from the Golden Age of Greece to that of contemporary popular culture, including the function of folklore stories, music, and legends.

ENGL 340E Russian Literature (3)

A study of Russian literature with emphasis on the 19th century.

ENGL 340F Women Writers: Topics in Women's Literature (3)

Examination of significant issues or topics reflected in women's literature from a variety of cultures and perspectives. Topics will be selected by individual instructors.

ENGL 340G Critical Studies in African American Literature (3)

Selected readings in African American literature with an emphasis on different critical approaches to literature.

ENGL 340H African Writers (3)

African writers in English since the colonial experience. Illuminates the character, literary, and thematic concerns of the works studied. Students will read from West, East, and South African authors.

ENGL 340J Shakespeare on Film (3)

Students study plays through reading the plays and viewing significant 20th century films. Discussion focuses on film as an interpretative portrayal of a play, emphasizing how cinema translates Shakespeare's works. Some films are authentic dramatizations of plays, while others are contemporary revisions through Broadway musicals and foreign films with English subtitles.

ENGL 340L Early American Literature (3)

Major and minor writers from the first arrival of the Europeans to 1776.

ENGL 340M U.S. Latino/a Literatures (3)

Studies in the Latino/Latina literatures of the United States with emphasis on Cuban-American, Puerto Rican, Mexican-American, and Dominican-American literary and cultural traditions.

ENGL 340N Gay and Lesbian Literature Across Cultures (3)

Cross-cultural studies in gay and lesbian literature. Topics, approaches, and readings will vary with individual instructors.

ENGL 340P Topics in World Literature (3)

Reading and analysis of literature in translation from various cultures and time periods. Topics, critical approaches, genres, and writers will vary with individual instructors.

ENGL 340R Century's End: Race and Gender at the Turn of the Twentieth Century (3)

Examination of the ways in which race and gender were constructed and construed in American culture from 1890 to 1914, through study of relevant fiction, nonfiction, and film.

ENGL 340S Bible and Literature in English (3)

The influence of the Bible on the English language and literature will be explored. Readings will include selections from the Bible and works of literature influenced by it.

ENGL 340W Critical Studies in Women's Literature (3)

Selected readings in Anglo-American women's literature with an emphasis on feminist, new historicist, and other contemporary critical approaches involving race, class, and gender issues.

ENGL 3420 The Adolescent Experience in Literature (3)

Emphasizes thematic connections between adolescent literature as a late-20th century genre and traditional literature from various literary perspectives. Particular focuses: aesthetic qualities, portrayal of adolescent developmental tasks, representation of adolescence in diverse cultural contexts, and application in Secondary-English classrooms. Required for English majors in teacher licensure program.

306 English (ENGL)

ENGL 3500 Advanced Technical Writing (3)

Prerequisite: ENGL 1100

Technical writing as a professional discipline, for students planning careers as technical writers or who anticipate that technical writing will be among their major duties in their chosen fields. Styles and forms in technical writing, emphasizing audience analysis and other social aspects of technical writing along with page design and desktop publishing. Extensive use of computers.

ENGL 3510 Technical Report Writing (3)

Prerequisite: ENGL 1100 or 3500

Designed to give the student practice in designing, writing, and producing a variety of technical papers, reports, and manuals. Projects determined by student's major and interests. Extensive use of sophisticated graphics and desktop publishing equipment.

ENGL 3600 Professional Writing and Editing (3)

Prerequisite: ENGL 1100

Writing common to professions outside of business; academic writing, report writing, industrial writing, scientific discourse, empirical research, and environment writing.

ENGL 360A American Drama (3)

American drama as literature. Drama written in the 20th century, especially the works of Eugene O'Neill, Arthur Miller, Tennessee Williams, Maxwell Anderson, Lillian Hellman, Edward Albee, and others.

ENGL 360B American Short Story (3)

The historical and literary backgrounds of the American short story; extensive reading, discussion, and presentation of analyses of representative stories.

ENGL 360C English Drama, 1580-1780 (3)

Examination of selected non-Shakespearean plays of the Renaissance and of representative plays of the Restoration and 18th century, as well as exposure to the nature of theaters of these periods and to the general character of the criticism of this literature.

ENGL 360D Literary Criticism (3)

An exploration of critical approaches to literary texts and a study of recent developments in the theory of language and literature.

ENGL 360E Modern Drama (3)

Important plays from Ibsen to the present. Also includes Strindberg, Chekhov, Pirandello, Shaw, and others.

ENGL 360F Modern Fiction (3)

Selected modern works of prose fiction by European as well as British and American authors.

ENGL 360G Modern Poetry (3)

Modern British and American poets with emphasis on poets of the late 19th and 20th centuries.

ENGL 360H Literature and Film Across Cultures (3)

Study of films adapted from literature and the literary texts from which they have been created. Readings and films represent various cultures. Selections, critical approaches, and topics will vary with individual instructors.

ENGL 3700 Business Writing (3)

Writing common to business, including rhetoric, style, and graphic design in memos, letters instructions, researched reports, and proposals.

ENGL 370A 17th Century British Prose and Poetry (3)

Readings in prose, metaphysical poetry, and the Cavalier lyricists, including Bacon, Donne, Milton, Jonson, Herrick, and Herbert.

ENGL 4200 Writing Workshop: Creative Nonfiction (3)

Prerequisites: ENGL 2030 *required*. ENGL 2200 *recommended*

An opportunity to develop skills in the writing of nonfiction. Assignments may include the following: personal essay, memoir, feature article, review, journalistic report. The student is guided individually and as a member of a group through rigorous analysis or his or her work.

ENGL 4210 Writing Workshop: Fiction (3)

Prerequisites: ENGL 3210 *and permission of the instructor*

An opportunity to develop skills learned and projects begun in 3210. Students are guided individually and as members of a group through rigorous analysis and criticism of their work.

ENGL 4220 Writing Workshop: Poetry (3)

Prerequisites: ENGL 3220 *and permission of the instructor*

An opportunity to develop skills learned and projects begun in 3220. Students are guided individually and as members of a group through rigorous analysis and criticism of their work.

ENGL 4400 Teaching English in Secondary School (3)

Prerequisite: *provisional admission to Teacher Education Program*

Surveys practices in the secondary school English classroom. Includes preparation of teaching unit, simulated teaching experiences, and methods for instructing students in literature, language, composition, visual literacy, and related areas within the language arts. Thirty (30) hours of field experience are required.

ENGL 4440 Course for Visiting Writers (3)

The nature of the literature course will be determined by the visiting writer.

ENGL 4500 Technical Writing Theory and Research (3)

Prerequisite: ENGL 1100 *or permission of instructor*

A study of theoretical issues in technical, professional, and scientific writing, including ethics, rhetoric, usability, design, cognition, and international communication.

ENGL 460A Major Medieval Writers (3)

One major writer or selected major writers of the Middle Ages will be studied in depth.

ENGL 460B Major Renaissance Writers (3)

One or two major writers of the Renaissance will be studied in depth.

308 English (ENGL)

ENGL 460C Major 18th Century Writers (3)

One or two major writers of the 18th century period will be studied in depth.

ENGL 460D Major Romantic Writers (3)

One or two major writers of the Romantic period will be studied in depth.

ENGL 460E Major Victorian Writers (3)

One or two major writers of the Victorian period will be studied in depth.

ENGL 460F Major American Writers I (3)

One or two major American writers of prose will be studied in depth.

ENGL 460G Major American Writers II (3)

One or two major American poets will be studied in depth.

ENGL 460H: Major Modern British Writers (3)

One or two major British writers of the 20th century will be studied in depth.

ENGL 4600 Topics in Literature and Language (3)

Study of a selected topic in literature, linguistics, or writing as determined by the instructor. May be taken twice for credit for a maximum of six hours.

ENGL 4610 Professional Writing Internship (3)

Prerequisite: ENGL 1100, junior or senior status, permission of instructor and on-site instructor

Practical experience in technical or professional writing. Students must produce documents meeting the requirements of the instructor and the onsite supervisor. May be taken twice for credit for a maximum of six hours.

ENGL 4650 Independent Study in Language or Literature (3)

Under special circumstances a student may be assigned an academic project not otherwise available. The assignment must be approved by the departmental chair.

ENGL 4900 Playwriting (3) (cross listed with THEA 4900)

Prerequisite: sophomore standing

Composing and revising scenes and one or two one-act plays for stage performance.

ENGL 4950 Advanced Playwriting (3) (cross listed with THEA 4950)

Prerequisite: ENGL 4900 or THEA 4900

Revising plays and one-act scripts for stage performance.

FINANCE (FIN)

FIN 1000 Personal Finance (3)

An examination of consumer financing, including budgeting, planning, taxes, credit, housing, insurance, investing, and retirement plans.

FIN 3010 Principles of Finance (3)

Prerequisites: junior standing; business majors must also meet the BBA admission requirement

A survey of business financial practices related to financial analysis, planning and control, managing working capital, capital investment, sources, and costs of financing. Computer models and software are used in instruction.

FIN 3310 Investments (3)

A survey of the field of investments, including investment setting, security markets, investment alternatives, valuation principles, strategy, and factors affecting security price movements. Available computer software is used.

FIN 3510 International Finance (3)

Prerequisite: FIN 3010

Theories of international trade will be introduced, as well as international business finance and its environment. Additional topics to be examined include comparison of financial statements between countries, risk and the foreign investment decision, exchange rate risk, and institutions and instruments of international finance.

FIN 3610 Principles of Real Estate (3)

Covers fundamental principles of real estate involved in the ownership and transfer of real property. Other topics include the operation of a real estate business, techniques of real property transactions, problems of buying and leasing real property transactions, and problems of buying and leasing property for residence or investment purposes.

FIN 3620 Real Estate Finance (3)

Emphasizes financial aspects of real estate transactions.

FIN 4010 Managerial Finance (3)

Prerequisites: FIN 3010, QM 3110

Financial management of the firm through in-depth study of financial planning, capital budgeting, working capital management, sources of financing, mergers, capital structure, and cost of capital. Available computer simulations and software are used with cases as instructional aides.

FIN 4210 Financial Markets and Institutions (3)

A study of financial markets and financial institutions. Emphasis will be placed on the interaction of financial markets and financial institutions, and their interaction with the corporate sector.

FIN 4310 Security Analysis and Portfolio Theory (3)

Prerequisites: FIN 3310, QM 3110

Continuation of 3310 through in-depth study of security valuation; risk diversification; portfolio construction; and performance evaluation. Available computer software is used.

FIN 4400 Financial Policy (3)

Prerequisites: FIN 3010, and QM 3110, or senior standing and permission of instructor

An analysis of selected financial problems and financial management decision making using the case approach. The course emphasizes both internal and environmental analysis in developing appropriate financial strategies for the firm.

310 Finance (FIN)

FIN 4410 Selecting Equity Investments (3)

Equity investments decisions made by student teams for the TVA Investment Challenge or similar projects. Written and oral presentations are required.

FIN 490A, B, C Special Problems in Finance (1, 2, 3)

Prerequisites: senior standing and permission of department chair and/or dean

Supervised independent study of finance topics (outside of classroom) which are academically relevant and of interest to both student and faculty.

FRENCH (FREN)

FREN 1010, 1020 Elementary French (4 each)

101A-101B; 102A-102B (2 each): FREN 101A and 101B are equivalent to FREN 1010; FREN 102A and 102B are equivalent to FREN 1020.

Prerequisite for FREN 1020: FREN 1010

Introduction to French language and culture with emphasis on oral communication. Extensive practice in reading, writing, speaking, and listening.

FREN 2010, 2020 Intermediate French (3 each)

Prerequisite for FREN 2010: FREN 1020 or equivalent; Prerequisite for FREN 2020: FREN 2010 or equivalent

A comprehensive review of French along with extensive reading, close textual examination, and discussion of representative works of French literature.

FREN 3040 Study Abroad in Quebec (6-8)

Prerequisite: basic knowledge of French or permission of instructor

A study program in Quebec designed to provide students with a total French-speaking environment which will allow a broadening of knowledge and appreciation of the French language and culture of Quebec. May be repeated for credit.

FREN 3050 Semester Study in France (12)

Prerequisite: basic knowledge of French or permission of instructor

A semester-long program of study in France designed to provide advanced French students with a total French-speaking environment which will allow broadening of knowledge and appreciation of French language and culture. May be repeated for credit.

FREN 3210 Advanced Composition in French (3)

Prerequisite: FREN 2020 or permission of instructor

Free composition on assigned topics and translations to and from French from a variety of authors and topics to develop fluency and correctness in writing French.

FREN 3220 Phonetics and Conversation in French (3)

Prerequisite: FREN 2020 or permission of instructor

A minimum of theory with extensive application in corrective phonetics to assure a high level of accuracy in French pronunciation. Concentrated practice in oral command of French. This course affords the student opportunities to discuss in French assigned topics in order to develop confidence and accuracy in oral expression.

FREN 3310 Geography and History of France (3)

Prerequisite: FREN 2020 or permission of instructor

Climate and physical aspects of France with an orientation to the civilization of the country, and French history with an orientation to French philosophy, institutions, and social problems.

FREN 3320 French Civilization (3)

Prerequisite: FREN 2020 or permission of instructor

The creative forces of the genius of French civilization are studied through discussion, lectures, and research projects.

FREN 3330 Quebec Literature and Culture (3)

Prerequisite: FREN 2020 or permission of instructor

This course will examine the culture, literature, and language of the Canadian province of Quebec. This course complements FREN 3040.

FREN 3410 Business French

Vocabulary and concepts in French and Québécois finance, accounting, and marketing.

FREN 4110, 4120 Independent Study in French (3 each)

Prerequisite: permission of instructor

Students study independently in French under instructor's guidance. Studies are planned to satisfy special individual needs and interests.

FREN 4510 Survey of French Literature I (3)

Prerequisite: FREN 2020

French literature from the early Medieval period through the 18th century.

FREN 4520 Survey of French Literature II (3)

Prerequisite: FREN 2020

French literature from the 19th century to the present.

FREN 4530 French Literature: Special Topics (3)

Prerequisite: FREN 2020

Selected texts from a genre, period, or theme in French Literature. May be repeated for credit.

GENERAL BUSINESS (GB)**GB 1110 Introduction to Business (3)**

Business environment, economics and legal foundations of business, human resources, marketing operations, and financial functions of domestic and global business.

GB 3010 e-Commerce Basics I (3)

A look at tools and technologies needed for Electronic Commerce. Business opportunities, challenges, and strategies for use of the Internet will be explored. Strategies and vision on the national and global information infrastructure will be discussed. A live website (personal first, then a business) and database beginnings for ordering capabilities will be individually built. Impacts of the electronic market, changes in company missions, security issues and other related topics are covered.

312 General Business (GB)

GB 3020 e-Commerce Basics II (3)

Continuation of GB3010; including advanced web site development database design. Shopping cart type entry data input for order pick sheets and customer invoicing. Development of e-commerce site documentation. Advanced course designed to provide a current state of the internet, origin and growth of e-commerce, differences and similarities between e-commerce and traditional commerce, and the relationship of e-commerce to the Internet.

GB 3700 e-Commerce Shipping Cycles (3)

This course builds on GB 3010 and 3020, developing the shipping cycles from form entry through delivery to the customer. Warehousing, distribution, and construct of pick sheets, invoices and inventory control, as well as resource allocations, including labor, are studied.

GB 3900 Internship (3)

Prerequisites: junior standing and permission of the School of Business Internship Coordinator
Designed to provide academic credit for relevant and meaningful managerial and professional employment experience in preparation for managerial positions. Term paper and satisfactory evaluation by employer required for credit. Grading on a pass/fail basis.

GEOGRAPHY (GEOG)

GEOG 1010 Physical Geography (3)

Introduction to map reading as well as development of skills and techniques used in the study of geography. This course concentrates on interrelationships among elements of the natural environment: landform, climate, soil, vegetation, weather, and water.

GEOG 1020 Geography of Europe, the Americas, and Australia (3)

Regions and nations generally included within the developed world will be analyzed with respect to their world location, population characteristics, economies, external connections/relationships, and problems/potentialities. Europe, North America, and the more economically developed countries of the Pacific rim are included.

GEOG 1030 Geography of Africa, Asia, and Oceania (3)

The class will focus mostly on regions and nations within the developing world that have the most vulnerable economy, high level of poverty, and ethnic conflicts. The natural and socioeconomic factors will be analyzed in details primarily in category of Least Developed Countries (LDC) as determined by the United Nations.

GEOG 3040 Sustainable Development (3)

Prerequisites: GEOG 1010, MATH 1010 or higher
(cross listed with AGRI 3040)

The impact of a rapidly growing human population on availability of natural resources and pollution of the environment. Minerals and energy resources, soil, water, air, forests, and wildlife habitats will be considered. Reducing consumption and using alternative sources will be considered as options to increasing resources production.

GEOG 3060 Quantitative Geosciences - Three hours lecture, three hours lab (4)

(cross listed with GEOL 3060)

Prerequisites: GEOG 1010 or GEOL 1040, MATH 1730, or permission of instructor

Techniques of geologic and atmospheric data collection and analysis with special emphasis on those parametric and nonparametric statistics utilized in the applied Geosciences. Emphasis placed on computer applications.

GEOG 3110 Geography of the United States and Canada (3)

A spatial analysis of the physical and cultural characteristics of the United States and Canada within a regional context.

GEOG 3130 Geography of the Middle East (3)

Prerequisite: GEOG 1010 or 1020 or 1030 or permission from instructor

The course will focus on the physical and cultural geography of the Middle East. The objectives are to analyze natural and human components and evaluate the significance of resources such as petroleum and water. The course will also cover historical and religious aspects that play a significant role in demographic, economic, and political development.

GEOG 3150 Geographic Information Systems I - Three hours lecture, two hours lab (4)

Prerequisites: a working knowledge of high-school algebra and geometry, CSCI 1005 or 1010 or permission of instructor

Introduction to the fundamentals of mapping and geographic information systems, including the nature of spatial data, coordinate systems, data collection, vector data, models, data analysis, mapping, and map interpretation.

GEOG 3250 Geographic Information Systems II - Two hours lecture, two hours lab (3)

Prerequisite: GEOG 3150

Intermediate geographic information systems; topics including relational database management systems, database design, vector and raster data models, address geocoding, spatial analysis operations, surface modeling, volume estimation, view shed analysis, and data uncertainty.

GEOG 3750 Geography of the African World (3)

A thematic approach to the multi-faceted aspects of the physical and human geography of Africa, contemporary geographic ideas, theories, and concepts, and their applicability to African "real-world" situations.

GEOG 3920 Field Mapping and the Global Positioning System (3)

Prerequisite: MATH 1730

Principles and practice of the global positioning system and their interface with geographic information systems.

GEOG 3930 Natural Hazards in the Environment (3)

Prerequisites: GEOG 1010, GEOL 1040

Natural hazards are examined, including thunderstorms, tornadoes, hurricanes, drought, volcanic eruptions, earthquakes, landslides, collapse, subsidence, floods, and wildfire.

Emphasis is placed on the interaction between people and the physical process. An analysis is made of the human perception of disasters as well as preparedness and recovery planning.

314 Geography (GEOG)

GEOG 3940 Technological Hazards in the Environment (3)

Environmental hazards introduced into the environment as a byproduct of technology are examined, including air, pollution, water, terrestrial pollution, and nuclear and industrial accidents. Emphasis is placed on the role of technology in altering natural processes and how society copes with increasing risks posed to life, limb, and property. Lecture will examine technological hazards as existing and evolving threats and global social, economic, and environmental security.

GEOG 3960 Urban Environments (3)

An examination is made of urban environments. Consideration is given to urban environmental problems.

GEOG 3980 Economic Geography (3)

Prerequisites: GEOG 1020, 1030 are recommended

A systematic examination of the structure of dynamic global economic activities, provided through an analysis of their defining spatial patterns, pressures, and interactions. Economic theory is not emphasized, except as necessary for the investigation of geographic patterns of resource utilization and the dynamic interactions of human, economic, and physical environments.

GEOG 4000 Environmental Management (3)

An analysis of environmental regulations and management strategies employed by federal agencies, state and local governments, and corporations.

GEOG 4010 Environmental Assessment (3)

Prerequisites: GEOG 4000, ENGL 1100

An analysis of the environmental impact statement (EIS) process. Emphasis is placed on preparation, review, and requirements of an EIS as a tool for environmental assessment.

GEOG 4160 Environmental Modeling and GIS - Three hours lecture, two hours lab (4)

Prerequisite: GEOG 3060

The use of a spreadsheet and a geographic information system in simulating atmospheric hydrological, biological, and earth surface processes. Deterministic, stochastic, chaotic, and optimization models will be described and constructed. Structure and behavior of dynamic physical, economic, and human systems, cause-and-effect relationships, and feedback in dynamic models.

GEOG 4170 Meteorology - Three hours lecture, two hours lab (4)

Prerequisite: GEOG 1010

An analysis of the components and processes of weather, emphasizing atmospheric energy exchange, local and global circulation patterns, and human modification of weather elements. Weather as a natural hazard is explored. Lab assignments emphasize weather observation, prediction, and presentation.

GEOG 4180 Climatology - Three hours lecture, two hours lab (4)

Prerequisite: GEOG 1010

Elements and processes defining and characterizing global climate patterns and classifications. Climates are examined for their spatial and temporal interaction with, and impact on, physical, biological, and human activity environments. Impact of environmental and atmospheric phenomena, including global warming and ozone depletion, on climate and climate change are examined.

GEOG 425A, B, C Applied Geographic Information Systems - Two hours lecture, two hours lab (3 each)

Prerequisite: GEOG 3150

The application of GIS technology to specific areas of specialization within the geosciences. May be repeated for credit.

GEOG 4260 Remote Sensing - Three hours lecture, two hours lab (4)

(cross listed with GEOL 4260)

Prerequisites: MATH 1730; CHEM 1110 or PHYS 2010

Data capture, image characteristics, and interpretation of aerial photography and satellite imagery, to include multispectral, thermal, and radar images. Digital image processing using a raster geographic information system.

GEOG 4270 Watershed Management and Modeling - Three hours lecture, two hours lab (4)

Prerequisites: GEOG 3060, (GEOG 1010 or GEOL 1040) and (CHEM 1110 or PHYS 2010)

Quantitative analysis and deterministic simulation of processes in the hydrologic cycle including precipitation, evaporation, infiltration, runoff, erosion, and open channel flow. Surface water quality as impacted by both natural and anthropogenic pollutant sources. Environmental decision making in light of model output.

GEOG 450x course can only be taken with the permission of the instructor.

Only one course can be taken for completion of the geography minor.

GEOG 450A Special Problems in Physical Geography (3)**GEOG 450B Special Problems in Economic Geography (3)****GEOG 450C Special Problems in Regional Geography (3)****GEOG 450D Special Problems in Urban Geography (3)****GEOLOGY (GEOL)****GEOL 1000 Geology as a Profession (1)**

Explores varied roles geologists play in private industry and in government. Course features guest speakers who work as geologists in Middle Tennessee.

GEOL 1040 Physical Geology - Three hours lecture, three hours lab (4)

(course renumbered from GEOL 1110)

Minerals and rocks, volcanism and related processes, weathering and soil development, glaciations, wind and stream erosion, major water and soil pollution problems, natural disaster forecasting, and development of landscape.

316 Geology (GEOL)

GEOL 1050 Historical Geology - Three hours lecture, three hours lab (4)

(course renumbered from GEOL 1120)

Plate tectonics and continental drift, development of major scientific theories about the earth, physical environment and organic populations of the earth in prehistoric times.

GEOL 290A, B, C, D Internship in Geology (3, 4, 5, 6)

Prerequisite: permission of instructor

University arranged and jointly supervised full-time salaried work experience as a technician-level employee of a geologically oriented government agency or company.

GEOL 3000 Structural Geology - Three hours lecture, three hours lab (4)

Prerequisites: GEOL 1040, MATH 1730 or permission of instructor

Structure and deformation of the Earth's crust. Topics include rock mechanics and geometry, and Kinematics of faults, folds, joints, and rock fabrics. Laboratory includes geologic map interpretation and data analysis. An overnight field trip is required.

GEOL 3002 Structure Field Practicum (1)

Corequisites: must take GEOL 3000 and GEOL 3001 concurrently

Field observation, documentation, and analysis of deformational features formed at middle to upper levels of the earth's crust. Use of the Brunton compass, note taking, and collection and analysis of structural data in the field. An overnight field trip is required.

GEOL 3010 Topics in Volcanology - Three hours lecture, two hours lab (4)

Descriptive study of selected topics in volcanology with emphasis placed on formation, analysis of selected type areas, eruptive history, composition, and characteristics of volcanic material and associated mineral deposits. Research paper involving a detailed analysis of a selected topic required.

GEOL 3030 Environmental Geology - Three hours lecture, three hours lab (4)

Prerequisite: GEOL 1040

Major geologic factors that directly influence man's adaptation to his environment. Lecture and laboratory focus attention on evaluation of earthquake susceptibility, landslide occurrence and prevention, flood potential and results of floodplain development, ground water contamination, and similar geologic processes which affect urbanization, engineered structures, and land-use potential and environment.

GEOL 3060 Quantitative Geosciences - Three hours lecture, three hours lab (4)

(cross listed with GEOG 3060)

Prerequisites: GEOL 1040 or GEOG 1010, MATH 1730, or permission of instructor

Techniques of geologic and geographic data collection and analysis, with special emphasis on those parametric and nonparametric statistics utilized in the applied Geosciences. Emphasis placed on computer applications.

GEOL 3100 Stratigraphy and Sedimentation - Three hours lecture, three hours lab (4)

Prerequisites: GEOL 1040, 1050

The genesis, mode of occurrence, and historical significance of sedimentary structures and depositional environments. Laboratories focus on techniques of rock and sediment analysis. An overnight field trip is required.

GEOL 3500 Mineralogy - Three hours lecture, three hours lab (4)

Prerequisite: GEOL 1040

This course is the study of rock-forming minerals. Includes introduction to crystallography; crystal chemistry; optical mineralogy; and occurrence and identification of common minerals in hand sample and thin section, with special emphasis on silicate minerals.

GEOL 3600 Petrology - Three hours lecture, three hours lab (4)

Prerequisite: GEOL 3500 at APSU or approval of transfer credit for mineralogy from instructor

The study of igneous, metamorphic, and sedimentary rocks in hand sample and thin section. Includes textural, mineralogical, and chemical characteristics; classification of rocks; and the origin, association, and tectonic occurrence of rocks. An overnight field trip is required.

GEOL 3650 Geotechnique (3)

Prerequisite: permission of instructor

Techniques and instruments used in applied geology; planning a foundation study, using borehole sensors; and similar projects.

GEOL 3680 Principles of Geochemistry (3)

Prerequisites: GEOL 1050, CHEM 1120

Physical-chemical factors that control distribution and association of elements in the earth's crust. Some emphasis will also be placed on applications of geochemistry to mineral exploration.

GEOL 390A, B, C, D Advanced Internship in Geology (3, 4, 5, 6)

Prerequisite: GEOL 290x

A second year of University arranged and jointly supervised full-time salaried work experience as a junior professional in a geologically oriented government agency or company.

GEOL 4050 Process Geomorphology - Three hours lecture, three hours lab (4)

Prerequisite: GEOL 1040 or permission of instructor

An applied, systematic process approach to landform development based upon threshold concepts. Geomorphic processes emphasized include mass movement, fluvial, aeolian, glacial, and karst geomorphology. Laboratory work is based upon aerial photographs, maps, field projects, and computer data analysis.

GEOL 4100 Seminar in Tectonics (3)

Prerequisite: GEOL 1040

Tectonic evolution of continents and relation to plate tectonic setting. Topics include terrane concepts, theories on the structural, mechanical, and thermal evolution of contractional and extensional orogenic belts; and origin of foreland and rift basins.

GEOL 4250 Hydrogeology - Three hours lecture, three hours lab (4)

Prerequisite: MATH 1720 or higher or permission of instructor

Occurrence, movement, and properties of subsurface water with special emphasis on geological aspects of ground water. Secondary emphasis is placed on ground-water flow evaluation and ground-water contamination, flow-net analysis, and pump testing.

318 Geology (GEOL)

GEOL 4260 Remote Sensing - Three hours lecture, two hours lab (4) (cross listed with GEOG 4260)

Prerequisite: MATH 1730

Data capture, image characteristics, and interpretation of aerial photography and satellite imagery, to include multispectral, thermal, and radar images. Digital image processing using a raster geographic information system.

GEOL 4450 Economic Geology - Three hours lecture, two hours lab (4)

Prerequisite: GEOL 3600 or permission of instructor

General features of mineral deposits, their origin, localization, and classification; also incorporates classic examples of mineral deposits with their geologic and geographic occurrence.

GEOL 450A, B, C Lab Research Project (3 each)

Prerequisite: permission of instructor

To promote personal growth as an independent investigator, each well-qualified junior or senior may complete an independent laboratory (in-house or field) oriented original research project with faculty supervision.

GEOL 455A, B Seminar in Earth Science (1 each)

Prerequisite: permission of instructor

Exploration of a theme from the current literature in the earth sciences.

GEOL 4910 Invertebrate Paleontology - Three hours lecture, three hours lab (4)

Prerequisite: GEOL 1050

Principles of faunal interpretation as applied to the fossil record of the invertebrate phyla. An overnight field trip is required.

GEOL 4920 Advanced Paleontology (3)

Prerequisite: GEOL 4910 or permission of instructor

Diversification of life, evolution of communities, faunas and floras, paleoecologic reconstruction, and evolutionary patterns are all components of paleontology. Current and past literature is explored to gain insight into patterns and processes in the history of life. Techniques in collection and analysis of paleontologic data are explored.

GEOL 4990 Field Geology (6)

Prerequisite: completion of courses required for Geology Concentration or permission of faculty

Six-week intensive experience in measuring section, stratigraphic, and structural interpretation and geologic mapping in a wide variety of igneous, metamorphic, and sedimentary terranes. Projects involve producing geologic maps and reports; aerial photographic interpretation skills, mapping, and location determination with GPS.

GEOL 4995 Seminar in Geosciences Communication (2)

Prerequisite: 12 upper division credit hours in Geology

Techniques of writing, editing, and oral presentation in the geosciences. Professional geologic reports, abstracts, and papers are emphasized. Location and critical evaluation of geologic data in print and electronic media will also be addressed.

GERMAN (GERM)**GERM 1010, 1020 Elementary German (4 each)**

Prerequisite for GERM 1020: GERM 1010 or 101A-101B; 102A-102B (2 each); GERM 101A and GERM 101B are equivalent to GERM 1010; GERM 102A and GERM 102B are equivalent to GERM 1020.

Introduction to German language and culture with emphasis on oral communication. Extensive practice in reading, writing, speaking, and listening.

GERM 2010, 2020 Intermediate German (3 each)

Prerequisite for GERM 2010: GERM 1020 or equivalent; prerequisite for GERM 2020: GERM 2010 or equivalent

A comprehensive review of German along with extensive reading, communicative exercises, and discussions of representative German texts and other media.

GERM 3040 Study Abroad in German-speaking Countries (6-8)

Prerequisite: basic knowledge of German or permission of instructor

A study abroad program designed to provide students with a total German-speaking environment which will allow a broadening of knowledge and appreciation of German language and culture. May be repeated for credit.

GERM 3210 Advanced Composition in German (3)

Prerequisite: GERM 2020 or permission of instructor

Free composition on assigned topics and translations to and from German, from a variety of authors and topics, to develop fluency and correctness in writing German.

GERM 3220 Phonetics and Conversation in German (3)

Prerequisite: GERM 2020 or permission of instructor

Extensive application of corrective phonetics to assure a high level of accuracy in German pronunciation. Concentrated practice in oral command of German. This course affords the student opportunities to discuss in German assigned topics in order to develop confidence and accuracy in oral expression.

GERM 3410 Business German (3)

Prerequisite: GERM 2020 or third-year proficiency

Vocabulary and concepts in German, Austrian, and Swiss business.

GERM 3510 German Civilization, Culture, and Geography I (3)

Prerequisite: GERM 2020 or permission of the instructor

German civilization, history, culture, and geography from its origins until the 18th Century.

GERM 3520 German Civilization, Culture, and Geography II (3)

Prerequisite: GERM 2020 or permission of the instructor

German civilization, history, culture, and geography from the 18th century on.

GERM 4110, 4120 Independent Study in German (3 each)

Prerequisite: permission of instructor

Students study independently in German under instructor's guidance. Studies are planned to satisfy special individual needs and interests.

320 German (GERM)

GERM 4510 Survey of German Literature I (3)

Prerequisite: GERM 2020

German literature from the beginning to 1800.

GERM 4520 Survey of German Literature II (3)

Prerequisite: GERM 2020

German literature from 1800 to the present.

GERM 4530 German Literature: Special Topics (3)

Prerequisite: GERM 2020

Selected texts from a genre, period or theme in German Literature. May be repeated for credit.

GLOBAL SECURITY STUDIES (GSS)

GSS 2010 Introduction to Global Security Studies (3)

Security studies in moving from a purely state-centric focus anchored in the military instrument to one considering transnational issues with global implications, implying collaborative effort to address these issues. Topics include conventional and critical security, gender and age, environmental security, international law, migration, intra-state conflict, terror, and American global power.

GREEK (GREK)

GREK 1010, 1020 Beginning Greek (4 each)

Prerequisite for GREK 1020: GREK 1010

An introduction, with cultural context, to the ancient Greek language, with emphasis on the written language; elements of Greek grammar and syntax; practice in reading and translation of Classical and New Testament Greek prose.

GREK 1110 Elementary Modern Greek (4)

An introduction to the modern Greek language, with emphasis on speaking, reading, and writing in an immersion experience. Available only through Study Abroad program in Greece.

GREK 2010, 2020 Intermediate Greek (3)

Prerequisite for GREK 2010: GREK 1020 *or equivalent*; *prerequisite for GREK 2020:* GREK 2010 *or equivalent*

Further study of ancient Greek with emphasis on increasing mastery of grammar and vocabulary. Readings are in prose in GREK 2010 and from Homer's *Iliad* in GREK 2020.

GREK 3310 The Greek Myths (3)

This course will present the major Greek myths and provide a basic understanding of methods of interpretation of Greek myths. In addition to the gods and goddesses of the ancient world, we will also examine heroes and the differences between myth and legend/saga. Knowledge of Greek language is not required.

GREK 3410 Greek Religion (3)

Introduction to religious beliefs and practices of ancient Greeks, concentrating on fifth and fourth century Athens but exploring cult practices in other periods and areas under Greek influence. Major deities, rituals, festivals, cults, sanctuaries, and their context within civic life. Knowledge of Greek language not required.

GREK 3510 Greek Historians (3)

Prerequisite: GREK 2020

Selections from Herodotus, Thucydides, Xenophon or any other of the Greek historians. Topics may include the history of historical prose, stylistic qualities of the various writers, as well as grammatical review.

GREK 3520 Koine Greek (3)

Prerequisite: GREK 2020

Selections from the New Testament, the Septuagint, early Christian writings, and the church fathers. Differences between Attic Greek and Koine will be discussed.

GREK 3610 Greek Drama (3)

Prerequisite: GREK 2020

Readings from Aeschylus, Sophocles, Euripides, Aristophanes or Menander. Some discussion of Aristotle's Poetics, background to Greek drama, and the production of Greek plays.

GREK 3620 Greek Philosophers (3)

Prerequisite: GREK 2020

Readings from the pre-Socratics, Plato, Aristotle, et al. Discussion of the history of Greek philosophical writing.

GREK 3710 Greek Lyric Poetry (3)

Prerequisite: GREK 2020

Readings from Sappho, Alcaeus, Archilochus, Mimnermus, Pindar, et al. Discussion of the history of the development of lyric poetry and its place in the larger Greek poetic tradition.

GREK 3720 Greek Epic Poetry (3)

Prerequisite: GREK 2020

Readings from Homer's *Odyssey*, Hesiod or Apollonius of Rhodes. Discussion of the history of epic poetry and its place in the larger Greek poetic tradition.

GREK 3810 Greek Rhetoric (3)

Prerequisite: GREK 2020

Readings from Greek orators, including, but not limited to, Lysias, Demosthenes, Isocrates, Andocides, et al. Discussion of the history of rhetoric, rhetorical devices, and the place of rhetoric in the larger Greek literary tradition.

GREK 3910 Hellenistic Prose (3)

Prerequisite: GREK 2020

Selections from Pausanias, Lucian, Longus, Plutarch, et al. Topics may include the development of prose, and the stylistic qualities of the various writers.

322 Greek (GREK)

GREK 4110, 4120 Independent Study in Greek (3 each)

Prerequisite: GREK 3300 or equivalent

Students study independently in Greek under the guidance of an instructor. Studies are planned to satisfy special individual needs and interests. May be repeated for up to a total of 12 hours.

GREK 4210 Greek Prose Composition (3)

Prerequisite: GREK 2020

Practice in composing connected prose in Attic Greek of the Classical period. Topics may include grammar review, development of Greek prose, the use of rhetorical devices; there may be brief readings from a variety of prose authors in addition to the composition assignments.

HEALTH AND HUMAN PERFORMANCE (HHP)

HHP 1250 Wellness Concepts and Practices (3)

Course combines health-related content knowledge with participation in physical activity. Content areas include fitness concepts, nutrition and weight management, substance use and abuse, prevention of chronic disease, and human sexuality.

HHP 2000 First Aid, CPR, and Safety (3)

Designed to help students recognize and control injury risk factors through an introduction to the public health approach to injury prevention. Includes skills training for certification in CPR, AED, and first aid to provide immediate and temporary care in the event of an injury or sudden illness.

HHP 2010 Technology Applications for Health and Human Performance (3)

Competency in microcomputer applications in instructional process and in management of health, physical education, and sports. Gives hands-on experience in using a variety of hardware and HHP specific software applications.

HHP 2030 Youth and Adolescent Health (3)

Offers teachers and others working with school-age persons an understanding of key health issues. Focus is on health topics related to family living, including intimacy, reproductive health, and STDs; mental health, including addictive behaviors, stress, and suicide; and injury prevention and safety. Educational and risk reduction strategies are featured.

HHP 2050 Community and Environmental Health (3)

An examination of the individuals and processes involved in the functioning of public and private community health agencies. The concepts of ecology and how ecological problems affect the quality of a healthful life are also presented.

HHP 2120 Rhythmic Movement and Educational Gymnastics (3)

Scope, content, and skill practice of both the educational gymnastics and rhythmic movement programs will be explored. The student will have the opportunity to demonstrate effective teaching strategies in a laboratory setting. Emphasis is placed on planning and organizing activities in grades K-12.

HHP 2170 Athletic Coaching of Track and Field Events (3)

Individual and team fundamentals for coaching track with specific techniques on running, hurdling, and field events.

HHP 2240 Introduction to Physical Education (3)

Comprehensive instruction to give the student planning to major in physical education an orientation to the scope of physical education and lifetime wellness programs.

HHP 3000 Health Care Management (3)

Prerequisite: completion of 39 semester hours or permission of department chair

A study of the principles of effective health-care management functions, including planning, organizing, leading, controlling, and processes of decision making and communication.

HHP 3010 Adapted Physical Education (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Abnormalities and atypical cases; identification, with preventive and corrective practices. The theory and practice of planning special physical education and personal fitness and related skills programs for the elementary and secondary levels.

HHP 3030 Nutrition: Science and Application (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Introduction to the science of nutrition and application to wellness promotion through the use of dietary assessment tools needed for lifestyle changes.

HHP 3110 Substance Use and Abuse (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The content and method pertaining to the preventive aspects of chemical dependency. Included will be emphasis on basic pharmacology, causes of drug abuse, possible alternatives, and the role of school and community services.

HHP 3150 Teaching Individual, Dual, and Team Sports (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Knowledge of planning, organizing, and teaching individual, dual, and team sports. Additionally, the student will develop abilities in individual, dual, and team sports.

HHP 3180 Introduction to Physical Education in Elementary Schools (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The role of PE in child development with emphasis on the study of elementary schools; physical educators and their philosophies, characteristics, and preparation; job opportunities; job satisfaction; special problems in PE at the elementary level; and an overview of activities.

HHP 3190 Rhythms, Plays, and Games for Elementary Children (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Designed to provide instruction and experience in basic rhythms, dance games, and movement explorations for the elementary school child.

324 Health and Human Performance (HHP)

HHP 3210 Methods and Materials in Physical Education for the Elementary School (3)

Prerequisite: completion of 39 semester hours or permission of department chair

A study of developmentally appropriate activities for the elementary child to include movement concepts and basic skills. Emphasis is placed on instructional approaches, feedback, assessment, and class management techniques. Students will observe in the schools.

HHP 3300 Anatomical Kinesiology (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Structure, function, and organization of the various tissues, organs, and systems of the human body, anatomic fundamentals of human motion, and the application to a wide variety of motor skills, athletic training, and physical rehabilitation.

HHP 3400 Comprehensive and Coordinated School Health Program (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The course will focus on the components of a total school health program, including school health services, safe and healthful school environment, and comprehensive health education. Emphasis will be placed on methods of organizing and implementing a coordinated K-12 school health program.

HHP 4000 Introduction to Gerontology (3)

Prerequisite: completion of 39 semester hours or permission of department chair

An overview of the factors influencing the health of the aged and aging.

HHP 4010 Community Recreation (3)

Prerequisite: completion of 39 semester hours or permission of department chair

A practical study of materials and methods for recreation leadership in schools and communities.

HHP 4030 Living, Dying, Grieving (3)

Prerequisite: completion of 39 semester hours or permission of department chair.

This course is designed to allow students a means by which to examine biological, philosophical, socioeconomic, and cultural viewpoints of living, aging, death and dying, and grieving. A balance of facts, activities, and personally confronting issues are incorporated.

HHP 4040 Sport Psychology (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Psychological principles in sports, including motivational techniques, personality factors, communication principles, and anxiety reduction techniques.

HHP 4050 Current Concepts in Wellness Promotion (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Designed to help students understand specific concepts of wellness promotion in a variety of community settings. Current methods in designing programs that encourage individuals to take responsibility for their own state of health; thus, changing behavior patterns of at-risk population to behaviors that move toward an optimum wellness status.

HHP 4060 Consumer Health (3)

Prerequisite: completion of 39 semester hours or permission of department chair

A study of fraudulent advertising and practices in the health field, such as healing practices, dietary fads, reducing agents, and other healing arts which now comprise only a portion of the modern “medicine show.”

HHP 4070 Introduction to Disease (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Modern concepts of diseases, including the etiology of common communicable and chronic diseases.

HHP 4080 Psychological Aspects of Human Sexuality (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The focus is on the human or personal aspect of sexuality. Emphasis is placed on attitudes, emotions, and behavior patterns as related to the development of healthy sexual lifestyles, rather than on the anatomy and physiology of the reproductive system. Students are encouraged to integrate their own life experiences with the academic materials.

HHP 4100 Camping and Camp Leadership (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Designed especially for those interested in camp counseling or in outdoor education. History and the growth of the camping movement, school camps, private camps, and family camping, with emphasis on the role of the camp counselor. Instruction and practical experience in camp craft will be included.

HHP 4150 Fitness Assessment and Exercise Prescription (3)

Prerequisite: HHP 4250

An explanation of the importance of exercise in wellness and lifestyle enhancement. Topics covered include exercise prescription, physical fitness assessment, application of training principles, and administration of activity programs in community, corporate, or hospital wellness setting.

HHP 4210 Measurement and Evaluation of Physical Education (3)

Prerequisite: completion of 39 semester hours or permission of department chair

Includes an appreciation of the importance of measurement in health and human performance and wellness. The types of tests appropriate for evaluation in health and human performance, as well as fitness assessments, will be covered. Methods of test construction and statistical analysis will be examined and applied.

HHP 4220 Analysis of Movement (3)

Prerequisite: HHP 3300 or BIOL 2010

Designed to develop a basic understanding of how and where the body moves and what the body can do. Opportunities will be provided to demonstrate an understanding of the mechanical principles and concepts of movement and to apply these concepts of movement.

HHP 4240 Introduction to Motor Learning (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The study of the application of psychological and physiological principles to learning motor skills and strategies.

326 Health and Human Performance (HHP)

HHP 4250 Physiology of Exercise (3)

Prerequisite: completion of 39 semester hours or permission of department chair; *prerequisite or corequisite required course:* HHP 3300 or BIOL 2010

Constitutes the scientific basis of physical activity and the development of physical training programs. Factors affecting muscle contraction, nervous control of muscular activity, effects of exercise on body function, muscle strength, fatigue and recovery, and weight management will be studied.

HHP 4300 Introduction to Stress Management (3)

Prerequisite: completion of 39 semester hours or permission of department chair

An introductory study of stress, stressors, and stress intervention techniques. This course complements other health offerings by giving students the opportunity to learn about stress as related to current health problems.

HHP 4400 Teaching Health and Human Performance (3)

Prerequisite: EDUC 3070, *preadmitted to Teacher Education, completion of 39 semester hours or permission of department chair*

Methods and materials for teaching health, physical education, and lifetime wellness. Emphasis is placed on structuring units of work, lesson plans, evaluation and organization, and development of health, physical education, and lifetime wellness programs. Students will observe in schools.

HHP 4444 Cultural Context of Health and Human Performance (3)

Prerequisite: completion of 39 semester hours

Capstone to integrate aspects of the Liberal Arts core with topics in health and wellness, physical education, and sports.

HHP 4500 Epidemiology (3)

Prerequisites: HHP 4070, *completion of 39 semester hours or permission of department chair*

Examination of epidemiological concepts in relation to specific public health issues. Disease investigation techniques, causal factors, case histories, and related biostatistics are examined and educational implications are discussed.

HHP 4600 Public Health Law (3)

Prerequisite: completion of 39 semester hours or permission of department chair

The study of federal and state legal systems affecting health-care administration and wellness promotion programs.

HHP 4910, 4920, 4930 Special Problems in Health and Human Performance (1, 2, 3)

Prerequisite: completion of 39 semester hours or permission of department chair

An independent study providing students with the opportunity to pursue a health-related topic not offered as part of the general curriculum. Health-related topics outside of major emphasis will be encouraged to broaden students' perspective.

HHP 4990 Internship in Health and Human Performance (12)

The internship consists of 360 work or contact hours of observation and participation from selected agencies, corporations, or organizations. Pass/Fail grade.

NOTE: Student must be within 12 hours of finishing degree requirements after completing HHP 4990, except with permission of department chair.

HISTORY (HIST)**HIST 121A Independent Study: Early World History (1)**

Student will consult with the supervising professor and read selected readings in World History. Evaluation may be either oral or written, depending on the judgment of the supervising professor.

HIST 1210 World History I (3)

(course renumbered from HIST 1010)

Earliest civilizations of Mesopotamia, Egypt, India, China, and the Aegean; classical civilizations of Greece and Rome; medieval civilizations of the Middle East, India, East Asia, and Western Europe; Africa and the Americas before European contact; the Renaissance; the Reformation; wars of religion; and age of exploration.

HIST 122A Independent Study: Modern World History (1)

Student will consult with the supervising professor and read selected readings in World History. Evaluation may be either oral or written, depending on the judgment of the supervising professor.

HIST 1220 World History II (3)

(course renumbered from HIST 1020)

European interactions with the people of Asia, Africa, and the Americas from 1660; absolutism, the Scientific Revolution and the Enlightenment; civilizations of Africa, the Middle East, and Asia; the French Revolution; the Industrial Revolution; nationalism; zenith and decline of European hegemony; 20th century wars and ideologies.

HIST 1500 East Asia through The Ages (3)

Prerequisite: ENGL 1010, 1020

This course will cover the history of East Asia from prehistoric times to the present. One major theme of this course will be transmission, particularly who China dominated in pre-modern times, and how the direction of transmission reversed itself with Japan's ascendance.

HIST 201A Independent Study: Early American History (1)

Student will consult with the supervising professor and read selected readings in American History. Evaluation may be either oral or written, depending on the judgment of the supervising professor.

HIST 2010 American History I (3)

Early exploring and colonizing activities; colonial customs and institutions; colonial wars; friction with England; war for independence; problems of the new republic; the Constitutional Convention; War of 1812; new nationalism; Jacksonian democracy; expansionism and Manifest Destiny; and sectional controversy and Civil War.

HIST 202A Independent Study: Modern American History (1)

Student will consult with the supervising professor and read selected readings in American History. Evaluation may be either oral or written, depending on the judgment of the supervising professor.

328 History (HIST)

HIST 2020 American History II (3)

Reconstruction; industrialism; the Populist Revolt; politics of the Gilded Age; the New Imperialism and the Spanish-American War; the Progressive era; World War I; prosperity and depression; the New Deal; World War II; and post-World War II era to present.

HIST 2030 History of Tennessee (3)

From the colonial frontier of the 18th century to the modern urban setting. Emphasis will be placed on the political, economic, and social factors that shaped the life of Tennesseans in the 18th, 19th, and 20th centuries.

HIST 3300 Ancient Greece (3)

The Bronze Age civilizations of Knossos, Mycenae, and Troy; the world of Homer; the rise of the city-state; Sparta; the Persian Wars; Athenian democracy and imperialism; literature, art, and philosophy in the Age of Pericles; the Peloponnesian War; and the conquests of Alexander the Great.

HIST 3310 Ancient Rome (3)

The origins of Rome; Etruscan influences; Roman institutions and values; the rise of Rome to world Empire; social and political conflicts; the change from free Republic to imperial despotism; the Pax Romana; the persecution of Christianity; barbarian invasions; and the decline of Rome.

HIST 3320 The Middle Ages After 700 (3)

Major themes in medieval history from 700 a.d. to the Renaissance. Emphasis on the medieval church; Islam; the Carolingians and their empire; seigniorialism and feudalism; crusades; revival of urban life and commerce; learning and the universities; the papacy; and the decline of medieval institutions.

HIST 3330 Renaissance and Reformation (3)

Early modern European society and culture from approximately 1350 to 1650. Topics include the “new learning” and the “new men” of the Renaissance; the development of the nation-state and commercial capitalism; the era of overseas exploration and discovery; the early forms of Protestantism; and the Counter-Reformation.

HIST 3340 Absolutism and the Enlightenment (3)

The political, economic, and intellectual history of Europe, from approximately 1650 to 1789. Emphasis is on the development and practice of Absolutism; the influence of the Scientific Revolution; and the impact of the Enlightenment on social and political thought.

HIST 3350 Modern Europe, 1789-1919 (3)

The French Revolution and Napoleon; 19th century liberalism and nationalism; the 1848 revolutions; the unification of Italy and Germany; the Russian revolutions; and World War I.

HIST 3360 Modern Europe, 1919-present (3)

The aftermath of World War I; Communist Russia; the Great Depression; Fascism and Nazism; World War II; the Cold War in Europe; and the fall of Communism.

HIST 3370 European Military History, 1789-1945 (3)

The development of military strategy, tactics, and technology in Europe from the French Revolution to the end of World War II.

HIST 3380 Britain to 1714 (3)

Prehistoric and Roman Britain; Anglo Saxon invasions; heptarchy; Norsemen; Norman invasion and its Impact; development of medieval English institutions; Tudors; Stuarts; and political, social, religious, constitutional, and economic developments in English history to 1714.

HIST 3390 Britain Since 1714 (3)

From the accession of the Hanoverians to the mid-20th century. The establishment of the Hanoverian dynasty, industrial revolution, and the rise of Methodism; the defeat of the French Revolution and Napoleon; Victorian era; new imperialism; Boer War; World Wars I and II; and political, social, economic, religious, intellectual, and constitutional developments.

HIST 3410 Modern Germany (3)

German history from the rise of Prussia in the 17th century through German unification, both World Wars and the post-World War II recovery. Topics of particular concern are militarism, nationalism, anti-Semitism, and democracy.

HIST 3440 Africa to 1800 (3)

An exploration of the origin of humanity and the development of the societal institutions which sustained and perpetuated human civilization from its beginning to 1800 A.D. A survey of Africology from ancient Egypt to the rise of modern nation-states, and an examination of peoples and cultures up to 1800 A.D.

HIST 3450 Africa Since 1800 (3)

An explanation of the major themes, peoples, and cultures in 19th and 20th century Africa, from the impact of European involvement to the rise of independent African states, with great emphasis upon how Africa was restored to African rule and Africa's role in world affairs.

HIST 3460 Colonial Latin America (3)

In-depth study of the great Pre-Columbian civilizations; Spanish conquests; the formation of the early Spanish state; imperial expansion; development of multi-cultural, transatlantic societies; reorganization of the Spanish Empire; and revolutions for independence. Emphasis upon the Native American component and Spanish and Portuguese colonial institutions.

HIST 3470 Modern Latin America (3)

In-depth study of the caudillo systems; creation of the Brazilian Empire; consolidation of nation states; growth of plantation economies; industrialization; dictatorships; and political and social change from independence through the present. Emphasis upon modern Mexico, Argentina, Brazil, and Chile.

HIST 3480 The Early Middle Ages (3)

The Mediterranean world in Late Antiquity and the Early Middle Ages, from the second to the 8th century; the decline of the Roman Empire; the triumph of Christianity; barbarian invasions; the Byzantine Empire; the rise of Islam; Arab conquests; the Umayyad Empire; Visigothic, Merovingian, and Anglo-Saxon kingdoms.

330 History (HIST)

HIST 3520 A History of Modern China (3)

This course provides a study of Chinese history from the revolution to present. Topics include Confucianism, feudalism, imperialism, communism, Buddhism, literature, gender, ethnicity, and cultural identity. Class meetings consist of lectures, discussions, and films.

HIST 3620 Modern Japan (3)

A critical examination of Japanese history from 1854 to present. Topics include the Meiji Restoration; the process and consequences of Modernization and Modernity; the rise of militarism; the road toward WWII and its aftermath; and social, political, and economic transformation in the post-war period.

HIST 3760 Modern Middle Eastern History (3)

A survey of the history of the area since the emergence and spread of Islam, this course focuses primarily on the historical, economic, and social developments of the Middle East in the 19th and 20th centuries. Emphasis is on Arab world, Turkey, Iran, and Israel.

HIST 3820 History of Modern Korea (3)

A critical examination of Korean history, 19th century to the present. Topics include clashes between tradition and modernization; relationship with China and Japan; internal and external struggles for independence; and causes and effects of two Koreas.

HIST 4400 Teaching Social Studies in the Secondary Schools (3)

Prerequisite: provisional admission to Teacher Education Program required

Emphasis on developing skills in unit development, assessing the behavior of students, acquiring skills in class management, teaching techniques, and evaluation. Competencies in selected generic teaching skills, such as mastery learning, questioning, positive reinforcement, pupil evaluation required. A minimum of 30 hours of field experience is required.

HIST 4500 The Colonial Era in America, 1607-1763 (3)

Cultural, social, economic, and political development of Anglo-American colonies to the eve of the Revolution. Topics include settlement patterns; Indian relations; Puritanism; origins of slavery; demography; imperial government and warfare; the Enlightenment; and the Great Awakening.

HIST 4510 Era of the American Revolution, 1763-1800 (3)

The origins, characteristics, and results of the American Revolution. Topics include the Whig political tradition; protest movements; War of American Independence; formation of state and national constitutions and governments; the Federalist years; and the "Revolution of 1800."

HIST 4520 The Early Republic, 1800-1845 (3)

The early republic from Jefferson's election in 1800 through the expansionist period of the Jacksonian years that led up to the Mexican War.

HIST 4530 The Civil War Era in America, 1845-1865 (3)

The Mexican War; the breakdown of national unity over slavery, states' rights, and economic and social differences; the Civil War, with emphasis on its military, political, and economic aspects.

HIST 4540 Gilded Age America, 1865-1900 (3)

The aftermath of the American Civil War and the struggle over reconstruction; the transformation of the U.S. into an urban and industrial nation in the last third of the 19th century; and the social and political consequences of that transformation.

HIST 4570 United States, 1900-1929 (3)

Early 20th-century America from the era of reform to the Stock Market Crash. Topics include the reform presidencies of Roosevelt and Wilson; American entry into World War I; Harlem Renaissance; cultural and economic challenges of the 1920s; and the Republican presidencies of the era.

HIST 4580 United States, 1929-1960 (3)

United States history from the onset of the Great Depression to the promise of a New Frontier; an examination of the New Deal-Fair Deal programs and legacies in American life; the international issues which created World War II and its aftermaths; and the Cold War.

HIST 4590 United States, 1960-1989 (3)

United States history from the days of the New Frontier of John F. Kennedy to the New World Order of the Reagan-Bush years; from the politics of fear to the dividends of peace; an examination of the United States at war with itself and the world for more democracy at home and abroad.

HIST 4620 The South to 1861 (3)

A synthesis of the economic, social, political, and cultural developments that shaped the history of southern states, from the Colonial period after 1607 to the secession crisis of 1860-61.

HIST 4630 The South Since 1861 (3)

The historic development of the South from 1861 to the present, from the trauma of Civil War and the First Reconstruction through the Second Reconstruction of the 1960s and the creation of the modern South.

HIST 4650 African American History to 1890 (3)

The African Americans from the cultural roots in Africa to the changing economic, political, and social status in the 1890s. Emphasis will be placed on those African Americans who were active in leadership roles from the colonial era to the Gilded Age.

HIST 4660 African American History Since 1890 (3)

African Americans from 1890 to the present. Special emphasis placed on the civil rights movement, Black nationalism, and Black leadership during the era.

HIST 4670 Women in American History (3)

The roles of women in the social, economic, and political development of the United States; contributions of women and the historical significance of their attitudes in the liberal reform eras in American history.

HIST 4700 American Military History to 1919 (3)

The development and employment in peace and war of American military power, on land and at sea, from the era of the American Revolution to the end of World War I.

332 History (HIST)

HIST 4710 American Military History Since 1919 (3)

The development and employment in peace and war of American military power on land, at sea, and in the air since World War I.

HIST 4730 U.S. Foreign Relations Since 1890 (3)

America's rise to the status of Great Power before World War II and global preeminence thereafter. Topics include colonialism, American involvement in World War I, interwar diplomacy, conflicts leading to World War II and the Cold War, Korea, and Vietnam.

HIST 4750 American Economic History (3)

American economic growth since the early 19th century. Topics include the American System, textiles, Railroads, and iron and steel in the last century; since 1900, mass production and consumption, the economic stimulus of war, and the rise of the interventionist state are major topics.

HIST 4760 Native American History (3)

The history of the Native American societies of North America, including their prehistory, development, changing relationships, and adaptation to white society over the past 400 years; role of Native Americans in American history; and Indian history from the tribal perspective. Case studies compare and contrast the Cherokee and Lakota experiences.

HIST 4770 History of the American West: Comparative American Frontiers (3)

Comparison and contrast among the Spanish Borderlands, French, Dutch, English, and American frontiers.

HIST 4780 History of the American West: Trans-Mississippi West (3)

The Trans-Mississippi West, including Native America, exploration, fur trade, hispano-Indian-white relations, western expansion, mining frontier, cattle frontier, military conquest of the plains, violence, reservation life, women in the West, farming frontier, myth vs. reality, and the 20th-century West.

HIST 4790 The Military in Nontraditional Roles (3)

This course addresses non-combat roles performed by the U.S. Military. The occupation of Germany and Japan after WWII, state building, and peace-keeping missions around the globe will be evaluated; demoralization and cultural re-orientation through political, educational, cultural, and economic institutions.

HIST 4800 Studies in Liberal Arts (3)

A writing intensive course based on readings in the Liberal Arts. This is the capstone course for students majoring in Liberal Arts.

HIST 4900 Topics in History (3)

Prerequisite: junior standing or permission of instructor

This seminar addresses a specific historical topic, determined by the instructor, involving advanced readings, discussion, and research. The student will complete a thesis, using primary and secondary sources or historiographic paper, engaging two or more historians on the topic. This course may be taken twice for credit for a maximum of six (6) hours.

HIST 4910 History Abroad (3-6)

Prerequisite: junior standing or permission of instructor

This course involves temporary residence outside the U.S. to study an historical topic in its geographic context. Students will complete a research, using primary and secondary sources or historiographic paper, engaging two or more historians on the same topic.

HIST 4920 Oral History (3-6)

Prerequisite: junior standing or permission of instructor

Theory and practice of oral history as a technique of research. Students will use primary sources and interviews to study a topic determined by the instructor. Students will complete a paper extensively using and interpreting oral history sources.

HIST 4930 Historiography Credit (3)

Prerequisite: junior standing or permission of instructor

This seminar is a study of the history and problems of historical writing and interpretation. Typical topics might include romantic history, ancient historians, Scientific Historicism, or current models and interpretations. Students will complete at least one paper engaging two or more historians' styles or arguments on the same topic.

HIST 4940 Public History (3-6)

Prerequisite: junior standing or permission of instructor

This seminar/internship introduces students to theory and methods of public history. Topics could include archives and records management; historical preservation and interpretation of site and artifacts; and editing and publishing. Students will complete a public history project satisfactory to the instructor and useful to the institutions to which the students are assigned.

INTERNATIONAL STUDIES (INTS)**INTS 2000 Introduction to International Studies (3)**

An emphasis on different disciplines and their global influences. Students will learn how to prepare themselves for understanding challenges and establishing international connections for their future professional and career opportunities.

INTS 3000 Study Abroad (12-18)

Provide appropriate credit for students studying full-time abroad under the supervision of qualified faculty.

LATIN (LATN)**LATN 1010, 1020 Elementary Latin (4 each)**

Prerequisite for LATN 1020: LATN 1010

An introduction, with cultural context, to the sounds and structures of the language with emphasis on the written; in second semester, greater stress on grammar, expanded vocabulary, and translation skills, both oral and written.

334 Latin (LATN)

LATN 2010, 2020 Intermediate Latin (3)

Prerequisite for LATN 2010: LATN 1020 or equivalent; Prerequisite for LATN 2020: LATN 2010 or equivalent

Further study of Classical Latin with emphasis on increasing mastery of grammar and vocabulary. Readings are in prose in LATN 2010 and from Vergils' *Aeneid* in LATN 2020.

LATN 3410 Roman Religion (3)

An introduction to the religious practices of Ancient Romans, from the late Republic through the first several centuries of the Roman Empire. We will study the major deities, rituals, festivals, and temples of the Roman people, including the cult of the emperor and the emergence of Eastern cults. No knowledge of Latin is required.

LATN 3510 Latin Historians (3)

Prerequisite: LATN 2020

Selections from Sallust, Caesar, Livy, Tacitus, Suetonius, or any other of the Latin historians. Some discussion of the history of historical writing in Rome, stylistic peculiarities of the various authors, and the place of historical writing in the broader literary context of ancient Rome.

LATN 3610 Latin Drama (3)

Prerequisite: LATN 2020

Selected readings from the plays of Plautus, Terence or Seneca. Discussion of the drama as a literary form, conventions of the Roman theater, Greek predecessors, and the practical side of play production.

LATN 3620 Latin Letters (3)

Prerequisite: LATN 2020

Selected readings from the letters of Cicero and/or Pliny the Younger. Some discussion of the letter as a literary form, epistolary style and syntax, Greek predecessors, and the practical side of letter writing in antiquity.

LATN 3710 Latin Lyric Poetry (3)

Prerequisite: LATN 2020

Readings from Catullus, Tibullus, Propertius, and other Latin lyric poets. Discussion of the history of the development of lyric poetry, including Greek precedents, and its place in the larger Latin literary tradition.

LATN 3720 Later Latin Epic (3)

Prerequisite: LATN 2020

Selected readings from the poems of Ovid, Statius, or Lucan. Discussion of the development of epic poetry in the first century a.d. with reference to the epic tradition.

LATN 3810 Latin Rhetoric (3)

Prerequisite: LATN 2020

Readings from Roman orators, primarily Cicero. Readings may include selections from rhetorical works such as the *De Oratore* and the *Rhetorica* and *Herrenium* as well. Discussion of the history of rhetoric, rhetorical devices, and the place of rhetoric in the larger Latin literary tradition.

LATN 4110, 4120 Independent Study in Latin (3 each)

Prerequisite: permission of the instructor

Students study independently in Latin under instructor's guidance. Studies are planned to satisfy special individual needs and interests. May be repeated for up to a total of 12 hours.

LATN 4210 Latin Prose Composition (3)

Prerequisite: LATN 2020

Practice in composing connected prose in Latin of the Classical period. Topics may include grammar review, the development of Latin prose, and the use of rhetorical devices; there may be brief readings from a variety of prose authors in addition to the composition assignments.

LATN 4300 The Roman Novel (3)

Prerequisite: LATN 2020

Selected readings from Petronius or Apuleius. Discussion of the ancient novel tradition, including Greek predecessors and such later authors as Dictys Gretensis and Julius Valerius.

LATN 4310 Medieval Latin (3)

Prerequisite: LATN 2020

Selected readings of Latin authors from c. 500 to 1500 A.D. Readings may include both prose and poetry. Study of the development of Latin throughout this period, including some discussion of the breakdown into the vernacular Romance languages.

LATN 4410 Latin Satire (3)

Prerequisite: LATN 2020

Selected readings from the poems of Horace, Martial, or Juvenal. Discussion of the development of satire and its place in the Latin literary tradition.

LEADERSHIP STUDIES (LDSP)

LDSP 1000 Introduction to the Study of Leadership (1) - PELP students only

Introduces students to the basic concepts of leadership, followership, volunteerism, and group dynamics, and assists students to develop a heightened self-awareness of their leadership potential.

LDSP 1005 Community Organizations (1) - PELP students only

Examines the structures of community organizations, governmental agencies, and other institutions as they relate to community activities. Included will be discussions of change in organizations, utilizing community resources. Students will be expected to spend some time in the field learning about community organizations.

LDSP 2000 Ethics in Leadership (1) - PELP students only

From Plato to the present, it has been argued that good leaders are good persons, individuals of good character who are able to apply sound reasoning to issues of private and public morality. Topics included will be ethical issues confronted by great leaders, the principles used in their decision making, and application of ethical principles to community situations.

336 Leadership Studies (LDSP)

LDSP 2001 Communication Skills (1) - PELP students only

Methods of communication (verbal, non-verbal, and written), barriers to communication, perceptions, styles of communication, conflict prevention and resolution, and skills for leading an effective meeting. The course will include theory and application of ideas presented in a variety of didactic and experiential activities.

LDSP 3000 Leadership Development (3)

This junior-level course, open to all junior or senior students, is designed to expose leadership students to the basic concepts in leadership theory and group dynamics; to assist students in developing and improving skills in communication, group dynamics, goal setting, decision making/problem solving, conflict resolution, and leading effective meetings; to enhance the student's understanding of the characteristics of past and present successful leaders, and to apply this understanding to their own leadership development.

LDSP 3001 Leadership Issues I (1) - PELP students only

Students will be assigned to a community committee and meet with the group on a regular basis as a participating member. In addition, students will attend at least two 2-hour workshops addressing practical application of leadership concepts and will participate in a group project. Readings related to the topic will be required.

LDSP 3002 Leadership Issues II (1) - PELP students only

Continuation of 3001.

LDSP 3100 Organizational Dynamics, Politics, and Change (3)

This course, open to all APSU students, takes an interdisciplinary look at leadership and change in organizations and groups. Students are exposed to structural, cultural, and political challenges that leaders face. Designed to help one understand sources of power and authority; various theories of organizational development and leadership strategies are explored for uses in dealing with complex situations and settings.

LDSP 3200 Community Leadership, Strategy, and Social Change (3)

This course, open to all APSU students, explores basic concepts of strategic leadership in civic and social organizations. Topics include social and civic entrepreneurship, civil society, community visioning, and grass roots strategic planning. Course participants will pursue strategies for building healthy and sustainable communities through asset building, collaboration, social capital development, fundraising, and grant writing.

LDSP 4000 Internship in Leadership (3)

Prerequisites: appropriate preparation courses and permission of the director

Students will complete 100 clock hours of supervised work in an approved setting and will be expected to meet at regular intervals with the Director to discuss work in the field. Application for internship should be made with the Director the semester prior to planned enrollment.

LDSP 4001 Great Leaders (1) - PELP students only

Studies of biographies of "models of greatness" will help students discover the characteristics of individuals which contributed to their outstanding accomplishments. Students will draw implications from these studies about their own abilities and skills.

LDSP 4200 Leadership, Technology, and Change (3)

This course, open to all APSU students, examines how the leader of any type of organization deals with technology as an agent of change. Students investigate how technology changes organizations and their environments, and they formulate strategies for leading diverse groups through technological change.

LINGUISTICS (LING)**LING 3010 Greek and Latin Etymology (1)**

Origin and derivation of words from Greek and Latin stems most frequently found in the English language; exercises and drills to increase vocabulary; no foreign language prerequisite.

LING 3030 International Learning Community (1)

Prerequisite: Students must be housed in the International Learning Community Residence Hall

Students will engage in cross-cultural and linguistic activities with other students in the classroom. Activities are related to language learning, study abroad and other international experiences. Pass/Fail grading. May be repeated for credit.

LING 4010 History and Etymology of English (3)

Linguistic and historical development of the English language; origin and derivation of words from Greek and Latin stems most frequently found in the English language; exercises and drills to increase vocabulary.

LING 4020 History of American English (3)

The diachronic evolution of American English from World War II to the present. The focus is also on language awareness in standard English, prejudice and discrimination in language usage, cultural diversity, gender, politics, law, and in such topics as euphemism, taboo, censorship, media, and advertising.

LING 4040 Structure and Dialects of American English (3)

History and development of the science of descriptive linguistics, including consideration of its application to the teaching of English; an overview of American dialects with close attention to proper use of the International Phonetics Alphabet.

LING 4050 English Grammar and Usage (3)

Fundamentals of predication: verbs, verbal clauses, nouns, pronouns, and terminology. Style and usage of verbal expression in standard English exemplified in the national media. Emphasis on enunciation, accent, pace, phrasing, use of idiom and slang, and the more admired options of speaking.

LING 4400 Teaching Foreign Languages in Secondary School (3)

General and specific problems involved in teaching foreign languages at the secondary level. Activities include demonstrations in applied linguistics as well as discussions, observations, field experiences, classroom practice, and individual projects.

MANAGEMENT (MGT)**MGT 3010 Principles of Management and Organizational Behavior (3)**

Prerequisites: junior standing; business majors must also meet the BBA admission requirements

The basic concepts and principles of management and organizational behavior are considered. Within the framework of planning, organizing, leading, and controlling human behavioral aspects of management are explored. Some of these are interpersonal relations, group dynamics, power and conflict, motivation, leadership, culture and organizational change.

MGT 3110 Organization Behavior and Theory (3)

Prerequisite: MGT 3010

An analysis of individual, interpersonal, and group behavior within organizations, as well as the interplay of human, technological, structural, cultural, and environmental factors for the purpose of relating them to the practice of management.

MGT 3210 Human Resource Management (3)

Prerequisite: MGT 3010

The staffing function of the organization, including the processes and legal issues of recruitment, selection, training, development, compensation, safety, health, performance appraisal, and retention of personnel.

MGT 3610 Entrepreneurship (3)

Prerequisite: MGT 3010

An in-depth study of the entrepreneurial process. Through the development of a business plan and financial projections, the student will gain an understanding of the entrepreneurial process which is critical to success in the small business sector. Emphasis will be placed upon the start-up and the knowledge required in management, finance, and marketing to insure success in a new venture. The impact of technology and the global and diverse workforce will be examined.

MGT 4000 Issues in Free Enterprise (3)

Prerequisite: junior standing or admission to the BBA program

Special topics in the area of free enterprise; topics may vary from time to time according to the specialty of the Chair of Excellence in Free Enterprise.

MGT 4010 The Evolution of Management Thought (3)

The development of management theories and practices during the twentieth century. Emphasis will be placed on developing an understanding of the primary management schools of thought and their impact upon the modern workplace. The influence of societal forces and world events on the evolution of management thought and principles will also be examined.

MGT 4110 International Management (3)

Prerequisites: MGT 3010, junior standing

A critical investigation of cultural aspects of living and engaging in business in non-U.S. locations. Major topics include individual and group behavior within the cultures, environments, and infrastructures of various countries in which the increasing globalization of business enterprise requires sensitivity and adaptation of Americans in business. Term paper required.

MGT 4810 Strategic Management (3)

Prerequisites: senior standing and completion of BLAW 3300, MGT 3010, MKT 3010, FIN 3010, QM 3110

Capstone course encompassing analysis of the dynamic interplay of threats and opportunities in corporations' external environments with strengths and weaknesses in corporations' internal environments that affect corporate decision making about long-term performance. Teamwork, written reports, and team presentation may be required. Analytical conclusions to be supported with approved sources.

MGT 490A, B, C Special Problems in Management (1, 2, 3)

Prerequisites: MGT 3010, senior standing, and permission of instructor

Application of the scientific method to business problems which are of interest to both faculty and students, and are academically relevant.

MANAGEMENT INFORMATION SYSTEMS (MIS)**MIS 1200 Business Information Technology (3)**

Use of computers to solve business problems and hands-on experience with computer hardware and system and analytical software applications.

MIS 4100 Management Information Systems (3)

Prerequisite: admission to the BBA program

Course focuses on the management and effective use of information resources by organizations and individuals in support of decision making. Topics include data communications, system specification and purchase, system development and documentation, and the effects of technological change on individuals and organizations.

MARKETING (MKT)**MKT 3010 Principles of Marketing (3)**

Prerequisites: junior standing; business majors must also meet the BBA admission requirement

A critical survey of functions, principles, processes, institutions, and trends involved in the process of organized exchange. The strategic manipulation of product, distribution price, and promotional variables is emphasized relative to identified market needs, market satisfaction, and product positioning. Relationship marketing is emphasized.

MKT 3110 Salesmanship (3)

Prerequisite: MKT 3010

An in-depth examination and study of the selling process. Both the theory and practical applications of selling skills will be examined and discussed. The student will have the opportunity to learn the basic skills of prospecting, developing a sales presentation, trial closes, overcoming objections, and closing. The skills learned will be applied by making a sales presentation.

340 Marketing (MKT)

MKT 3210 Retailing Management (3)

Prerequisite: MKT 3010

A study of the development and present status of the retailing structure with emphasis on unit location, organization, operation, management, display, traffic flow, inventory control, distribution, and evaluation from a marketing perspective. A retail project or simulation is required.

MKT 3310 Sales Management (3)

Prerequisite: MKT 3010

A study of the tasks and functions of the sales manager. Emphasis will be placed upon recruiting, training, motivating, and supervising a sales force. Textbook study and lectures will be supplemented by role playing in each of the emphasized areas. Students will also learn the skills necessary to develop sales forecasts, territory design, and territory management.

MKT 3410 International Marketing (3)

Prerequisite: MKT 3010

Study of managerial marketing policies and practices of firms marketing their products and services in foreign countries. An analytical survey of institutions, functions, policies, and practices in international marketing relative to the marketing structure and environment of foreign countries. A country study is required in paper form.

MKT 3510 Consumer and Market Behavior (3)

Prerequisite: MKT 3010

A critical study of market behavior and the social psychological aspect of the purchase act with application to marketing problems. Topics include models of consumer behavior learning, perception, attitude, personality, demographics, psychographic, and their assessment relative to marketing communication. Social and cultural influences on market behavior and exchange are emphasized.

MKT 3710 Business Mapping (3)

An in-depth examination and study of the spatial analysis of business information. Course content will consist of both the theory and practical application of geographical information systems in solving business problems. The emphasis of the course will be to develop a working knowledge of GIS software, basic cartographic principles, data sources, and a cognizance of the spatial relationship inherent in business data. Skills and knowledge obtained during the course will be refined through their application to business situations applicable to spatial analysis.

MKT 4000 Issues in Free Enterprise (3)

Prerequisite: junior standing or admission to the BBA program

Special topics in the area of free enterprise; topics may vary from time to time according to the specialty of the Chair of Excellence in Free Enterprise.

MKT 4150 Industrial Marketing (3)

Prerequisite: MKT 3010

Problems involved in marketing materials, equipment, services, supplies, and components to the industrial and institutional markets are discussed. Purchasing, institutional economics, pricing, promotion, distribution, and the case study method are emphasized relative to rational buying motives.

MKT 4200 Logistics (3)

A study of managing activities related to traffic, transportation, inventory management and control warehousing, packaging, order processing, and materials handling from a technological standpoint. Attention is placed on information systems for logistics, focusing on application to logistics management.

MKT 4310 Advertising and Promotional Strategy (3)

Prerequisite: MKT 3010

A critical evaluation of the promotional element in marketing communications relative to personal selling, advertising, sales promotion, and public relations activities. Strategic emphasis is placed on the development of the advertising plan, including objectives, budget, media selection and scheduling, creativity, and the evaluation of results via advertising research. A project is required.

MKT 4450 Marketing Research (3)

Prerequisites: MKT 3010, QM 3110

A critical study of the process, principles, and functions involved with the research process and product. Topics include research design, sampling, questionnaire design, statistical manipulation and inference, data collection, and research results preparation and presentation. Actual research projects are conducted and presented to the clients.

MKT 4800 Marketing Management (3)

Prerequisites: MKT 3010, 3210, 4310, 4450

The capstone course in marketing, emphasizing the strategic manipulation and integration of product, distribution, pricing, and promotional elements. Marketing policy is determined in a variety of product/ service/marketing situations using appropriate projects, case studies, and simulations.

MKT 490A, B, C Special Problems in Marketing (1, 2, 3)

Prerequisites: MKT 3010, *senior standing or permission of instructor*

Individual research and analysis of contemporary problems, issues and opportunities in concentrated areas of study under the guidance of a faculty member. The application of academic and theoretical constructs to specific problems and issues is emphasized.

MATHEMATICS (MATH)

MATH 0990 Elementary Geometry (3) - (non-graduation credit)

Prerequisites: *one year high-school Algebra; open only to students without Geometry credit in high school*

Designed to remove deficiency in high-school geometry. Main topics include properties, symmetry, congruency, and similarity of geometric figures; Pythagorean Theorem and right triangle relationships; areas; circles; constructions; and use of geometrical thinking in solving problems.

MATH 1010 Mathematical Thought and Practice (3)

Prerequisite: *a mathematical background equivalent to high-school Algebra I, Geometry, and Algebra II*

This course examines how different areas of mathematics explain and shape our world, as well as how we view and experience it.

342 Mathematics (MATH)

MATH 1110 Algebraic Problem Solving (3)

Prerequisites: High School Algebra I, Algebra II, Geometry and ACT of 19 or above

Students will learn important aspects of functions and their representations from a problem solving viewpoint. The primary emphasis is meaningful use and interpretation of the language, symbols, and concepts of functions and their representation.

MATH 1410 Structure of Mathematical Systems (3)

Prerequisites: a mathematical background equivalent to high-school Algebra I, Geometry, and Algebra II

Topics include the rational number system, functions, algebra, and number theory.

Emphases are problem solving, number sense, and communicating mathematics concepts with language, symbols, and concrete and pictorial representations.

MATH 1411 Structure of Mathematical Systems Lab (1)

Corequisite: MATH 1410

Elective mathematics laboratory for students desiring extra assistance with MATH 1410. Lab instruction will focus on problem solving. Grading on a pass/fail basis.

MATH 1420 Structure of Mathematical Systems (3)

Prerequisite: a mathematical background equivalent to high-school Algebra I, Geometry, and Algebra II

Topics include proportionality, the real number system, probability, data analysis, geometry, and measurement. Emphases are problem solving, multiplicative thinking, number sense, and communicating mathematics concepts with language, symbols, and concrete and pictorial representations. This course is reserved for students seeking elementary or middle school teaching licensure.

MATH 1421 Structure of Mathematical Systems Lab (1)

Corequisite: MATH 1420

Elective mathematics laboratory for students desiring extra assistance with MATH 1420. Lab instruction will focus on problem solving. Grading on a pass/fail basis.

MATH 1530 Elements of Statistics (3)

Prerequisite: a mathematical background equivalent to high-school Algebra I, Geometry, and Algebra II

Measures of central tendency and dispersion for descriptive statistics, estimations of confidence intervals for means and proportions, probability distributions, hypotheses testing, analysis of variance, the least squares method, and correlation analysis.

MATH 1710 Precalculus (Algebra) (3)

Prerequisite: a mathematical background equivalent to high-school Algebra I, Geometry, and Algebra II

A study of functions and their representations with emphasis on the use of functions in problem solving and modeling contexts. Topics include polynomial functions, rational functions, power and root functions, inverse functions, and systems of equations.

MATH 1720 Precalculus (Trigonometry) (3)

Prerequisite: a working knowledge of two years of high-school Algebra and Geometry or equivalent

Circular functions and their graphs, inverses, identities, and conditional equations, solutions of triangles, trigonometric form of complex numbers, DeMoivre's Theorem, exponential and logarithmic functions, parametric and polar equations.

MATH 1730 Precalculus (4)

Prerequisite: a working knowledge of two years of high-school Algebra and Geometry or equivalent

Analysis of functions and their graphs, inverse functions, exponential and logarithmic functions, theory of equations, conic sections, circular functions and their graphs, trigonometric identities and conditional equations, solutions of triangles, trigonometric form of complex numbers, DeMoivre's Theorem, parametric and polar equations. Structured primarily to prepare students for Math 1910.

MATH 1810 Elements of Calculus (3)

Prerequisite: a working knowledge of two years of high-school Algebra and Geometry or equivalent

Designed for students whose major interest is outside the physical sciences, but who require a working knowledge of calculus; limits, the derivative, differentiation techniques, applications of differentiation, the definite integral, integration techniques, and applications of integration.

MATH 1820 Elements of Calculus (3)

Prerequisite: MATH 1810

Continuation of 1810. Functions of several variables, exponential and logarithmic functions, differential equations, Taylor polynomials, infinite series, and numerical methods.

MATH 1910 Calculus and Analytic Geometry (5)

Prerequisite: four years of high-school mathematics, including Trigonometry

Elements of plane analytic geometry, functions, limits, derivatives of algebraic and trigonometric functions, integration, and applications.

MATH 1920 Calculus and Analytic Geometry (5)

Prerequisite: MATH 1910

Polar coordinates, numerical integration, infinite series, techniques of integration, improper integrals, conic sections, and transcendental functions.

MATH 2110 Calculus (3)

Prerequisite: MATH 1920

Three dimensional vectors, partial derivatives, multiple integration, and vector calculus.

MATH 3000 Discrete Mathematics (3)

Prerequisites: MATH 1820, 1920 or permission of instructor

The study of algorithms, counting methods and combinatorics, graph theory, trees, Boolean algebras, and combinatorial circuits.

MATH 3010 Introduction to Mathematical Reasoning (3)

Prerequisite: MATH 1920

Topics include inductive and deductive reasoning, symbolic logic, truth tables, set theory, and functions, with emphasis on various techniques in proving mathematical theorems; applications to geometry, number theory, algebra, analysis, and topology.

MATH 3120 Differential Equations (3)

Prerequisite: MATH 2110

First order differential equations and applications, linear equations of higher order and applications, series solutions of differential equations, Bessel functions and other classical functions obtained by series solutions.

344 Mathematics (MATH)

MATH 3130 Differential Equations (3)

Prerequisite: MATH 3120

The Laplace transform and its application to differential equations, systems of linear differential equations, and numerical methods. Fourier series and the solution of boundary value problems involving partial differential equations, such as the heat equation and the wave equation.

MATH 3250 Statistical Methods I (3)

Prerequisite: MATH 1910 or equivalent

An introduction to sampling and design methods, descriptive statistics, basic probability and probability distributions, parametric and nonparametric estimation and hypothesis tests, tests for goodness-of-fit and independence, and utilization of statistical software.

MATH 3260 Statistical Methods II (3)

Prerequisite: MATH 3250

Analysis of variance and multiple comparisons, elementary regression models, multiple regression and the general linear model, and logistic regression.

MATH 3270 Experimental Design (3)

Prerequisite: MATH 3250 or equivalent

Design concepts for experiments and studies: ANOVA for standard designs; analysis of covariance, and other experimental designs.

MATH 3450 Linear Algebra (3)

Prerequisite: MATH 1920

Systems of linear equations, determinants, vector spaces with emphasis on finite-dimensional spaces, linear transformations, similarity, eigenvalues and eigenvectors, diagonalization, quadratic forms, numerical methods, and applications.

MATH 3630 College Geometry (3)

Prerequisites: MATH 1910 and one year of high-school Geometry

An introduction to modern elementary geometry, transformational geometry, projective geometry, non- Euclidean geometry, and foundations of geometry.

MATH 4000 Mathematics Seminar (1)

Prerequisite: MATH 1910

The course will explore connections among the various content areas, such as calculus, geometry, and statistics. It is required in the mathematics add-on endorsement program.

MATH 4010 History of Mathematics (3)

Prerequisite: permission of instructor

Development of elementary mathematics and a study of the individuals and cultures who contributed to it.

MATH 4020 Geometry for Elementary and Middle School Teachers (3)

Prerequisites: MATH 1410, 1420

Topics include informal, plane, and solid geometries; tessellations; transformations; measurements; deductive reasoning; constructions with dynamic geometry software and other tools; and topology and graph theory.

MATH 4030 Problem Solving for Elementary and Middle School Teachers (3)

Prerequisites: MATH 1410, 1420

Students will engage in recreational mathematics, puzzles, and games. The emphasis is to develop problem-solving skills using various tools and techniques, such as algebra, modeling, and appropriate technology.

MATH 4100 Teaching Mathematics in Grades K-3 (3)

Prerequisites: MATH 1410, 1420, and *provisional admission to Teacher Education*

Contemporary elementary school mathematics curriculum, teaching materials, and strategies for effective teaching. Field experience required.

MATH 4110 Number Theory (3)

Prerequisite: MATH 1920

Divisibility, properties of primes, analysis of congruence, quadratic residues, and Diophantine analysis.

MATH 4150 Teaching Mathematics in Grades 4-6 (3)

Prerequisite: MATH 4100

Contemporary elementary school mathematics curriculum, teaching materials, and strategies for effective teaching in grades 4-6. Field experience required.

MATH 4160 Complex Analysis (3)

Prerequisite: MATH 1920

The algebra of complex numbers, properties of analytic functions, elementary functions and mappings, complex integration, power series, residues and poles, and conformal mapping.

MATH 4200 Mathematics Content and Pedagogy for Middle School (3)

Prerequisites: MATH 3630 or both MATH 1410 and 1420; and *Milestone II status*

Using appropriate technology, students will investigate and apply concepts of algebra, geometry, trigonometry, probability, and calculus. The course will also address pedagogy in the middle school mathematics classroom. Field experience required.

MATH 4210 Topology (3)

Prerequisite: MATH 2110

Sets, metric spaces, limits, continuous maps and homeomorphisms, connectedness, and compact topological spaces.

MATH 4240 Probability (3)

Prerequisite: MATH 1920

A mathematical introduction to probability: sample spaces; probability functions; counting techniques; conditional probability; independence, total probability, and Baye's rule; discrete and continuous random variables; expectation, median, and variance; joint and conditional distributions; moment generating functions; laws of large numbers; and the central limit theorem.

MATH 4250 Mathematical Statistics (3)

Prerequisite: MATH 4240

A mathematical treatment of statistics including properties of estimators; maximum likelihood estimation; confidence intervals; hypothesis testing; analysis of categorical data; non-parametric statistics.

346 Mathematics (MATH)

MATH 4260 Stochastic Processes (3)

An introduction to stochastic processes and their applications: Poisson and compound Poisson processes; discrete and continuous time Markov chains; renewal theory; random walks; and Brownian motion.

MATH 4270 Nonparametric Statistics (3)

Prerequisite: MATH 4240

Distribution free techniques for estimation of parameters and comparison of populations.

MATH 4400 The Teaching of Secondary School Mathematics (3)

Prerequisites: provisional admission to teacher education; 22 hours of mathematics courses in the major;

Corequisite: MATH 3630

Basic strategies for teaching mathematics and for evaluating mathematics teaching.

Particular emphasis will be placed upon the current literature pertaining to these strategies.

Field experience required.

MATH 4450 Mathematical Models (3)

Prerequisites: MATH 1920, 3450

Formation of mathematical models for problems in science and business. Special emphasis on models requiring algebra, calculus, discrete methods, and probabilistic models.

MATH 4460 Applied Mathematics (3)

Prerequisites: MATH 2110, 3120, 4450

Analysis and solution of mathematical problems arising from scientific and industrial settings, including mathematical models requiring differential equations. Writing and presentation of mathematical models and solutions.

MATH 4500 Modern Algebra (3)

Prerequisite: MATH 1920

Relations, maps, abstract algebras, groups, rings, integral domains, order, morphisms, fields, and factorization.

MATH 4670 Numerical Analysis (3)

Prerequisites: MATH 1920 and CSCI 1010 or permission of instructor

Digital computer programming, finite differences, numerical integration, matrix computations, numerical solutions of non-linear systems and differential equations.

MATH 4710 Advanced Calculus (3)

Prerequisite: MATH 2110

Logic and proof, functions, cardinality, real numbers, sequences, limits, continuity, differentiation, integration, infinite series, sequences, and series of functions.

MATH 4810 Senior Seminar (1)

Prerequisite: senior standing and permission of department chair

The threads that link concepts found in undergraduate mathematics will be discussed. The transition from student to career will be addressed. The library and other resources will be utilized to encourage a continuing development of mathematical thought.

MATH 4900, 490A Special Problems (3 each)

Prerequisite: at least 30 hours in mathematics

Selected mathematical topics of general interest.

MATH 4910, 4920, 4930 Topics in Mathematics (1 each)

Prerequisite: permission of instructor

Workshops of short duration which are organized around topics of current interest.

MEDICAL TECHNOLOGY (MTEC)

MTEC 3910 Fundamentals of Hematology - Three hours lecture, three hours lab (4)

Prerequisite: BIOL 2020

Study of formed elements of the blood and the mechanism of coagulation, with an emphasis on normal development and routine evaluation of blood samples together with development of basic laboratory skills. The use of statistics in the analysis and interpretation of laboratory data is introduced.

MTEC 3940 Fundamentals of Clinical Analysis - Three hours lecture, three hours lab (4)

Prerequisite: permission of instructor

Use of proper glassware and reagents; test performance relating to procedures, instrumentation including maintenance and quality control; introduction to carbohydrate metabolism and renal function.

MTEC 4090 Clinical Hematology (4)

Prerequisites: MTEC 4910 and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Practical experience in fundamental techniques in the clinical hematology section at an affiliated hospital laboratory. Additional practical experience with equipment maintenance, reporting and correlating results, quality control and proficiency testing, case studies, and special procedures.

MTEC 4290 Clinical Microbiology (4)

Prerequisites: MTEC 4730 and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Practical experience in the routine isolation and identification of medically significant bacteria, fungi, and parasites, using approved methods in the clinical bacteriology/mycology/parasitology section of an affiliated hospital laboratory. Additional practical experience with equipment maintenance, reporting and correlating results, quality control and proficiency testing, case studies, and special procedures.

348 Medical Technology (MTEC)

MTEC 4390 Clinical Immunohematology/ Serology (4)

Prerequisites: BIOL 3760, MTEC 4950, and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Practical experience in the current methods of blood grouping, typing, fetal screening, transfusion therapy, and serology testing in the clinical immunohematology/serology section of an affiliated hospital laboratory. Additional practical experience with equipment maintenance, reporting and correlating results, quality control and proficiency testing, case studies, and special procedures.

MTEC 4490 Clinical Chemistry/Urinalysis (4)

Prerequisites: MTEC 3940, 4940, 4970, and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Practical experience in fundamental techniques in the routine clinical chemistry/urinalysis section at an affiliated hospital laboratory. Additional practical experience with equipment maintenance, reporting and correlating results, quality control and proficiency testing, case studies, and special procedures.

MTEC 4500 Research – Lab (2-4)

Prerequisites: permission of instructor, minimum 2.5 CGPA, minimum 3.0 average GPA, and 16 hours of 3000-4999 level Biology and/or Chemistry

This course is offered for those who desire to pursue a special study of some medical/biological problem beyond what is possible in regular courses. The student is expected to select and plan a research problem and pursue it to some state of completion. The data are to be written in acceptable scientific form and available for a seminar. Maximum of four (4) hours.

MTEC 4730 Diagnostic Microbiology I -Three hours lecture, three hours lab (4)

Prerequisites: BIOL 2300 or 3050 and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Advanced study of the bacterial agents which cause human disease. The processing and handling of clinical specimens with emphasis on state of the art isolation and identification of pathogenic bacteria is included. The theory and laboratory practice in clinical serology used in diagnosis of infectious disease is also emphasized (including ASO, CRP, RPR, ELISA, and IF).

MTEC 4750 Management/Research/Education Seminar (3)

Prerequisite: acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Present educational terminology and techniques applied in the clinical laboratory workplace; present concepts of research design and practice and methods of evaluating clinical laboratory research; present organizational, cost control, and management methods for laboratory operations; and introduce local, state, and federal regulations applicable to the clinical laboratory.

MTEC 4900 Clinical Phlebotomy (1)

Prerequisites: MTEC 4910, 4940, and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Practical experience in fundamental techniques in the routine clinical phlebotomy section at an affiliated hospital laboratory. Additional practical experience with universal safety precautions, specimen collection, specimen processing, and specimen accessioning.

MTEC 4910 Hematology - Three hours lecture, three hours lab (4)

Prerequisite: acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

The study of human blood with emphasis on anemia, leukemia, special stains and tests, enzyme deficiencies, cellular and humoral immunity, autoimmune disorders, genetic abnormalities, vascular and biochemical coagulation, and associated disorders. Discussion of physical and cellular aspects of body fluids, microscopic examination, specimen collection, and handling of transudates, exudates, and other body fluids.

MTEC 4940 Clinical Analysis I - Three hours lecture, three hours lab (4)

Prerequisite: acceptance into the senior year (clinical phase) of the Medical Technology Program, or permission of program director, or permission of instructor

Study of plasma proteins, enzymes, liver, kidney, and cardiac function, with emphasis on clinical laboratory testing used in diagnosis of pathological states associated with the above. Significance of abnormal test results and correlation with pathological state will be emphasized.

MTEC 4950 Immunohematology - Two hours lecture, four hours lab (4)

Prerequisites: MTEC 4910 and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

The immunological aspects of erythrocytes and other cells in the context of blood grouping systems, donor selection, specimen collection, processing, component preparation, compatibility testing, and transfusions. HLA systems, adverse reactions, and data management are covered.

MTEC 4970 Clinical Analysis II - Three hours lecture, three hours lab (4)

Prerequisites: MTEC 4940 and acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

The study of lipoproteins, electrolytes, blood gases and the chemical, physical, and microscopic examination of urine. Endocrinology, toxicology, therapeutic drug monitoring, tumor markers, immunochemical methods, and molecular diagnostics will be introduced. Clinical laboratory testing, clinical significance of test results, and correlation of results with pathological states will be emphasized.

MTEC 4980 Diagnostic Microbiology II - Three hours lecture, three hours lab (4)

Prerequisites: Acceptance into the senior year (clinical phase) of the Medical Technology Program or permission of program director

Introduction of the fundamental techniques used in the isolation, identification, and recovery of medically important mycobacteria, fungi, parasites, and viruses. Emphasis is also placed on the host/microbial interaction and response. The theory and laboratory practice in clinical serology (of the above organisms) used in the diagnosis of infectious disease is also covered.

350 Military Science and Leadership (MSL)

MILITARY SCIENCE AND LEADERSHIP (MSL)

MSL 1000 The Army Physical Fitness Program (1)

Physical Education activity course open to all University students

Enables students to develop an understanding of the "total fitness" concept in order to live a more healthy and meaningful life. Increases physical awareness and personal fitness level measured through strength, muscle endurance, and cardio respiratory endurance.

MSL 1010 Leadership and Management Skills I - Two hours lecture, two hours lab (2)

Time management; organizational and planning skills; and the recognition, understanding, and development of leadership abilities for the undergraduate. Introduction to the military, including rappelling, history, and traditions of the Armed Forces; contemporary issues facing today's Army; and introduction to Army weapons. Taken with MSL 101L. No service obligation incurred.

MSL 1020 Leadership and Management Skills II - Two hours lecture, two hours lab (2)

Basic military skills and knowledge to include leadership; drill and ceremonies; rappelling and mountaineering; introduction to the role, organization, and branches of the U.S. Army; introduction to first aid measures; and introduction to military decision-making process. Taken with MSL 102L. No service obligation incurred.

MSL 2010 Introduction to Tactical Skills I - Two hours lecture, two hours lab (2)

Prerequisites: MSL 1010, 1020 or permission of instructor

Basic military skills and knowledge to include rifle marksmanship, firing the M-16 rifle; instruction on the principles of leadership; and customs and traditions of the service. Taken with MSL 201L. No service obligation incurred.

MSL 2020 Introduction to Tactical Skills II - Two hours lecture, two hours lab (2)

Prerequisites: MSL 1010, 1020 or permission of instructor

Introduction to basic tactical skills such as map reading, land navigation, and orienteering. Topics covered include basic first aid, tactical communications, introduction to tactics, and leadership. Taken with MSL 202L. No service obligation incurred.

MSL 2030 Leaders Training Course (3)

Consists of 28 days (224 hours) of instruction on the principles of leadership, teamwork, drill and ceremonies; tactics; a familiarization with the basic units in the Army; practical application of the principles of patrolling; physical training; weapons familiarization and marksmanship. Qualified students may be awarded a two-year scholarship, undergraduate or graduate level.

MSL 3010 Tactical Leadership I - Three hours lecture, two hours lab (3)

Prerequisites: MSL 1010, 1020, 2010, 2020 (or just 2030 in lieu of MSL 1010, 1020, 2010, 2020)

Principles and skills to include: advanced map reading, land navigation, and leadership. Topics include branches of the Army first aid, hygiene, radio and communication procedures. Introduction to small unit tactics. Physical fitness is highly emphasized. Designed to prepare the student for advanced camp and future service as an officer. Taken with MSL 301L.

Military Science and Leadership (MSL) 351

MSL 3020 Tactical Leadership II - Three hours lecture, two hours lab (3)

Prerequisite: MSL 3010

Advanced small unit tactics to include basic principles of patrolling. A study of command and staff functions, light infantry organization, weapons, principles of war, troop leading procedures, and combat orders. An analysis of leadership techniques and successful combat leadership. Physical fitness is highly emphasized. Designed to prepare the student for advanced camp and future service as an officer. Taken with MSL 302L.

MSL 3040 Leadership Development and Assessment Course (4)

Prerequisites: MSL 3010, 3020

Commissioning requirements for all cadets. Consisting of five weeks (264 hours) of summer training instruction on the advanced techniques of leadership in small units; exercises in garrison and tactical operations in the field; physical training and conditioning; weapons qualifications; and orientation on combat arms team operations.

MSL 3050 Military Leadership Internship/Cadet Troop-Leading Training (CTLT) (3)

Prerequisites: MSL 3010, 301L, 3020, 302L

The internship consists of observation and participation in serving and leading in an active duty Army unit. The student will do all unit training while serving as an Army officer candidate for 240-300 contact hours in the field. This blends classroom theory and practical work experience.

MSL 4010 Advanced Military Skills/ Knowledge I - Three hours lecture, two hours lab (3)

Prerequisite: MSL 3020

Leadership and management instruction designed to prepare the student for commissioning, the officer basic course, and first assignment. Course includes preparation of accession packets; Army writing style; preparation of after-action reports; briefings, plans, and orders; preparation and conduct of meetings; and the Army personnel, intelligence, training, and logistics systems. Taken with MSL 401L.

MSL 4020 Advanced Military Skills/ Knowledge II - Three hours lecture, two hours lab (3)

Prerequisite: MSL 4010

Leadership and management instruction designed to prepare the student for commissioning, the officer basic course, and first assignment. Course includes military law and justice; role of the noncommissioned officer; customs and traditions of the service; and fundamentals of the military profession (leadership and ethics). Physical fitness is highly emphasized. Taken with MSL 402L.

MSL 4030 Military Leadership Seminar - Three hours lecture, two hours lab (3)

Prerequisite: advanced course enrollment

Study of leadership techniques and theory through historical case studies, contemporary writings, and a performance-based program. An overview of U.S. military history gives the cadet an appreciation of U.S. armed forces heritage.

352 Military Science and Leadership (MSL)

MSL 4040 Military Leadership Seminar - Three hours lecture, two hours lab (3)

Prerequisite: advanced course enrollment

Leadership techniques and theory through historical case studies, contemporary writings, and a performance-based program. Designed to assist the student in making the transition from cadet to officer; to familiarize him/her with the challenges to be faced after commissioning.

MUSIC (MUS)

MUS 1030 Music Appreciation (3)

(course renumbered from MUS 2000)

An introductory course designed to help create an awareness of the contribution which music can make toward the enrichment of living.

MUS 1040, 1050 Introduction to Music Theory (3 each)

Basic fundamentals of music theory for students who need preparation for MUS 1180 (Music Theory I). The basics of notation, scales, meters, intervals, and chords will be emphasized. This class will be required for students who did not pass the diagnostic exam for Music Theory I.

MUS 1060 Recital Attendance

Full-time music majors are required to attend 15 approved recitals and concerts each semester. Grading on a pass/fail basis.

MUS 1160, 1170 Class Piano (1 each) - Two periods

Group instruction for music majors. The course develops basic reading and keyboard technique. Students work toward completion of the scale, harmonization, and repertoire portions of the piano proficiency exam.

MUS 1210 Beginning Guitar (1) - Two periods

Prerequisite: MUS 1160

Group instruction for those who have had no previous guitar experience. The course will provide an introduction to the technique and classical literature of the guitar. These courses must be taken in sequence.

MUS 1250 Class Voice (1) - Two periods

Group instruction in the fundamental processes of good singing-breathing, tone production, and diction.

MUS 1350, 3350* Orchestra (1 each) - Three periods

Open to all students with the permission of instructor.

MUS 1500, 3500* Choir (1 each) - Three periods

Open to all students with the permission of the instructor.

MUS 1600, 3600* Symphonic Band (1 each) - Three periods

Open to all students with the permission of the instructor.

MUS 1610, 3610* Pep-Lab Band (1 each) - Three periods

Open to all students with the permission of instructor.

MUS 1630, 3630* Marching Band (1 each)

A performing organization functioning during the Fall semester relative to football games, parades, and contest exhibitions.

MUS 1700, 3700* Accompanying (1 each)

Experiences for pianists and guitarists in accompanying various solo music.

MUS 1712, 3712* String Quartet (1 each)**MUS 1713, 3713* Trio (1 each)****MUS 1714, 3714* Flute Choir (1 each)****MUS 1715, 3715* Woodwind Quintet (1 each)****MUS 1716, 3716* Double Reed Ensemble (1 each)****MUS 1717, 3717* Saxophone Ensemble (1 each)****MUS 1718, 3718* Woodwind Trio (1 each)****MUS 1719, 3719* Trumpet Ensemble (1 each)****MUS 1721, 3721* Brass Quintet (1 each)****MUS 1722, 3722* Honors Brass Quintet (1 each)****MUS 1723, 3723* Trombone Choir (1 each)****MUS 1724, 3724* Horn Choir (1 each)****MUS 1760, 3760* Clarinet Choir (1 each) - Three periods**

Open to any student with permission of instructor.

MUS 1180 Music Theory I (3) - Fall semester only**MUS 1190 Music Theory II (3) - Spring semester only**

Prerequisite: MUS 1180

Development of reading and hearing skills; study of notations, scales, meters, intervals, and chords, beginning study of melody and harmony. These courses must be taken sequentially.

MUS 1185 Aural Skills I (1) - Fall semester only**MUS 1195 Aural Skills II (1) - Spring semester only**

Prerequisite: MUS 1185

Students will cover basic ear training and sight singing, interval and chord identification, and melodic dictation. These courses must be taken sequentially.

MUS 1910, 3910* Chamber Singers (1 each) - Three periods

Open to any student by audition.

MUS 1920, 3920* Brass Choir (1 each) - Three periods

Open to all students with the permission of instructor.

MUS 1930, 3930* Jazz Band (1 each) - Three periods

Open to all students with the permission of instructor.

MUS 1940, 3940* Opera Workshop (1 each) - Three periods

A realistic laboratory approach to the selection and presentation of opera. Open to any person interested in any phase of opera production. Public performances of opera will be given when feasible.

354 Music (MUS)

MUS 1970 Introduction to Music Literature (3)

A course which introduces beginning music majors to a broad spectrum of musical styles and types, old and new, classical and popular, in the West and in selected non-Western cultures.

MUS 1980, 3980* Percussion Ensemble (1 each) - Three periods

Open to all students with the permission of instructor.

MUS 1990, 3990* Guitar Ensemble (1 each) - Three periods

Open to all students with the permission of the instructor.

MUS 2030 World Music (3)

Exposes non-music majors to the varied functions and forms music has in culture, with particular emphasis on non-Western types. The study of traditional music and contemporary indigenous music; musical fusions created and used by a variety of cultures are points of entry for exploring and understanding societies highly differentiated from our own.

MUS 2180 Music Theory III (3) - Fall semester only

Prerequisites: MUS 1190

MUS 2190 Music Theory IV (3) - Spring semester only

Prerequisites: MUS 2180

Study of harmony and voice leading; basic chromatic harmony; 16th and 18th century counterpoint; 18th century form and analysis; development of analytical and compositional skills. Continued development of reading and hearing skills. These courses must be taken sequentially.

MUS 2185 Aural Skills III (1) - Fall semester only

Prerequisites: MUS 1195

MUS 2195 Aural Skills IV (1) - Spring semester only

Prerequisites: MUS 2185

Students will cover intermediate ear training and sight singing, interval and chord identification, and melodic dictation. These courses must be taken sequentially.

MUS 2240 Foundations of Music Education (3)

Prerequisite: MUS 1180

Addresses many of the State Department of Education competencies including curriculum, musical assessment, and managerial competencies necessary for the 21st-century music teacher. A history of music in education and various philosophies of education will be examined. Four (4) hours of field experience will be required.

MUS 3010 Music History (3) - Fall semester only

Prerequisites: MUS 1970

MUS 3020 Music History (3) - Spring semester only

Prerequisites: MUS 3010

A historical survey of the development of music from Greek civilization to the present day. These courses must be taken sequentially.

MUS 3140 Introduction to Jazz Harmony (2)

Prerequisite: MUS 2120, 2190

Spelling and analysis of chords and the creation of chord scales characteristic of jazz. Class time will be used to analyze and practice material created by established jazz artists.

MUS 3141 Jazz Harmony Performance (1)

This course extends the Intro to Jazz Harmony course providing a lab experience, with either a live or recorded rhythm section performing in the jazz style, allowing the students to improve their improvisational skills in a controlled environment and apply skills discussed in previous course. Open to all students with the permission of the instructor.

MUS 3160 Introduction to Music Technology (3)

Prerequisite: music majors and minors or by permission of instructor

A practical introduction to current music technology and its application as a tool of composition, education and performance. A passing grade in this course fulfills the University computer literacy requirement and music education instructional technology requirement.

MUS 3252 Secondary General Music and Humanities (1)

Prerequisite: MUS 2240, EDUC 3070

Methods, materials, techniques, and strategies for teaching musical and humanities concepts and content for grades 6-12. A four-hour field experience is required.

MUS 3255 General Music Methods (2)

Prerequisite: MUS 2240, EDUC 3070

General music techniques and practices, repertoire, instruments, aural skills, assessment and managerial techniques, as well as strategies for teaching culturally diverse children in the elementary and middle school music classroom will be covered. Four (4) hours of field experience will be required.

MUS 3800 Basic Conducting (2)

Elementary theory and practice of conducting. Basic beat patterns, subdivisions, beat character, and basic score reading.

MUS 3810 Choral Conducting (2) - Three periods

Prerequisite: MUS 3800

The theory and practice of choral conducting including expressive gestures, score preparation, asymmetrical beat patterns, establishing proper mood, and interpretation based on an understanding of historical style periods. Functional knowledge of string, wind, and percussion instruments.

MUS 3820 Instrumental Conducting (2) - Three periods

Prerequisite: MUS 3800

Problems of instrumental balance, style, intonation, phrasing, dynamics, and tone quality are considered. Additional factors considered include score preparation, transposition, proper rehearsal techniques, and an understanding of musical terms and symbols and their proper interpretation within the context of the musical score.

MUS 3860 Guitar Pedagogy (3)

Survey of pedagogical resources and methods for the classical guitar.

MUS 3890 Brass Group Instruction (2) - Three periods

Acquisition of a working knowledge of the brass-wind instruments through study of their mechanical operation and performance techniques; elementary performance experiences.

356 Music (MUS)

MUS 3900 Percussion Group Instruction (2) - Three periods

Acquisition of a working knowledge of the percussion instruments through study of their mechanical operation and performance techniques; elementary performance experiences.

MUS 4110 Music Analysis (3) - Fall semester only

Prerequisite: MUS 2120 or 2190

MUS 4120 Music Analysis (3) - Spring semester only

Prerequisite: MUS 4110

Development of analytical skills for music written from 1820 to the present. Analytical approaches covering works from the early and late Romantic, Impressionist, Expressionist periods; study and analysis of serial and post-World War II compositional styles. These courses must be taken sequentially.

MUS 4240 Marching Band Techniques (3)

Planning field shows for the marching band; charting, dance steps, parades, routines, and scoring for outdoor playing.

MUS 4260 Materials and Techniques for Instrumental Instruction (3)

A survey of study and solo material for all instruments, singly and in small and large ensembles. Problems in individual and class instruction considered.

MUS 4270 Vocal Pedagogy (3)

Widely accepted methods of solo vocal instruction and problems encountered in vocal pedagogy. This course is primarily concerned with the development of the young singing voice.

MUS 4280 Piano Pedagogy (3)

Techniques in teaching piano by the class method; materials and methods for private instruction.

MUS 4310 Survey of Piano Literature (3)

An historical survey of the contributive elements, stylistic characteristics, form, and keyboard techniques from the 16th century to the 20th century. Intended primarily for piano majors; open to others with the permission of the instructor.

MUS 4320 Guitar Literature (3)

Prerequisite: guitar major or permission of instructor

Survey of guitar repertoire, literature, and associated performance practices from the Renaissance to the present.

MUS 4330 Music Before 1750 (3)

Prerequisite: MUS 3010

Repertoires of Medieval, Renaissance, and Baroque music; development of methods for structural analysis and the critical appraisal of style change; study of individual pieces representing the major repertoires; and study of notation, theory, and performance practice.

MUS 4340 Music from 1750 to 1900 (3)

Prerequisite: MUS 3020

Repertoires of Classical and Romantic music; structural and style-critical analysis of individual pieces representing the major repertoires of the period.

MUS 4350 Music After 1900 (3)

Prerequisite: MUS 3020

Repertoires of the Modern period; development of methods and strategies for structural and style-critical analysis; study of aesthetic and theoretical issues; study of individual pieces representing the major repertoires.

MUS 4370 Art Song Literature (3)

Solo vocal literature from the 17th century to the present, including French, German, British, and American repertoire.

MUS 4380 Choral Techniques (3)

Problems of chorus and choral instruction with the emphasis on organization, rehearsal, diction, intonation, tone quality, balance, blend, and style. Deals specifically with choral music in the secondary school.

MUS 4390 Choral Literature (3)

Choral music from the 16th century to the present with emphasis on the major compositions, including a cappella works and extended works with chorus and orchestra.

MUS 4420 Symphonic Literature (3)

Prerequisites: MUS 3010, 3020

Repertoire of the symphony orchestra from its origins around 1750 to the present day.

MUS 4430 Chamber Music Literature (3)

Prerequisites: MUS 3010, 3020

Chamber music repertoire from the 18th century to the present day.

MUS 4450 Opera Literature (3)

Prerequisites: MUS 1970

Development of opera from its beginning in the late 16th century to the present.

MUS 4460 Music of Many Cultures (3)

Prerequisites: MUS 1970 or permission of instructor

The study of folk and traditional music from North and South America, Asia, Australia, Africa, and Europe. Music students' training in classical Western music will be used as a point of departure for developing and applying critical and analytical skills to non-Western music.

MUS 4522 Italian Diction for Singers (1) - Two periods

Fundamentals of correct pronunciation of the language for singing, speaking, and the international phonetic alphabet.

MUS 4523 German Diction for Singers (1) - Two periods

Fundamentals of correct pronunciation of the language for singing, speaking, and the international phonetic alphabet.

MUS 4524 French Diction for Singers (1) - Two periods

Fundamentals of correct pronunciation of the language for singing, speaking, and the international phonetic alphabet.

358 Music (MUS)

MUS 4550 Music for the Band (3)

Development of music for the band; analysis of representative works.

MUS 4790 Flute/Double Reed Group Instruction (1) - Two periods

Practical playing experience and instruction in methods of tone production, fingering, and care of the double reed, and non-reed woodwind instruments.

MUS 4800 Clarinet/Saxophone Group Instruction (1) - Two periods

Practical playing experience and instruction in methods of tone production, fingering, and care of the double reed, and non-reed woodwind instruments.

MUS 4810 Orchestration (2)

Prerequisite: MUS 2190

Arranging and transcribing for instruments; basic ranges and transpositions; sonorities of individual instruments and their combinations.

MUS 4890 String Group Instruction (2) - Three periods

Acquisition of a working knowledge of the violin, viola, cello, and bass viol through practical playing experience, emphasizing position, fingering, and bowing problems; may be repeated for credit.

NURSING (NURS)

NURS 2000 Women's Health in Today's World (3)

Prerequisite: admission to the University

Focuses on women's health issues across the life span, with specific emphasis on health promotion and self-care, women and the health-care system, diversity and health issues, and influence strategies for change. The course will provide essential information needed to build a strong knowledge base from which women's health concerns can be addressed.

NURS 2010 Concepts of Self-Care (3)

Prerequisite: admission to the B.S.N. Program

Links concepts and theories from arts and sciences with concepts and theories for nurse agency.

NURS 2020 Assessment of Self-Care Requisites (3)

Prerequisite: admission to the B.S.N. Program; *Corequisite:* NURS 2021

Prepares the student to assess universal, developmental, and health deviation self-care requisites.

NURS 2021 Assessment of Self-Care Requisites Clinical (1)

Corequisite: NURS 2020

Clinical lab.

NURS 2030 Introduction to Nursing Agency (4)

Prerequisite: admission to the B.S.N. Program; *Corequisite:* NURS 2031 (4)

Includes concepts, knowledge, and skills fundamental to understanding the social, interpersonal, and technological components of nursing practice.

NURS 2031 Introduction to Nursing Agency Clinical (4)

Corequisite: NURS 2030

Includes math components, skills clinical lab, and clinical experience.

NURS 2040 Pharmacology for Self-Care (1)

Prerequisite: admission to the B.S.N. Program or consent of program director

Provides the basis for study of pharmacology principles. Includes safe dosage calculation and intravenous medication delivery, including fluid and electrolyte imbalances. Prepares the beginning nursing student for future pharmacology courses in the nursing program.

NURS 3010 Concepts of Self-Care (3)

Prerequisites: NURS 2020, 2030, 2040

Links concepts and theories from arts and sciences with concepts and theories for nurse agency.

NURS 3020 Psychopharmacology (1)

Prerequisite: completion of sophomore-level nursing courses or consent of program director

Integrates the principles of psychopharmacology in relation to the neurological and biological effects of chemical imbalances on human behavior. Includes knowledge of safe and effective clinical management of clients taking psychotropic medications.

NURS 3050 Nursing Informatics (1)

Prerequisite: admission to the B.S.N. Program

This course provides students with an overview of nursing informatics and the theoretical foundation for information management within the health-care setting. Students will explore technological advances related to health-care delivery and a variety of information systems.

NURS 3060 Nursing Systems Related to Mental Health (4)

Prerequisites: completion of sophomore-level nursing courses; *Corequisite:* NURS 3061 (4)

Application of self-care theory and the nursing process in a variety of mental health settings.

NURS 3061 Nursing Systems Related to Mental Health Clinical (4)

Corequisite: NURS 3060

Clinical lab.

NURS 3070 Nursing Systems Related to Adults I (4)

Prerequisites: completion of sophomore-level nursing courses; *Corequisite:* NURS 3071 (4)

Application of the nursing process in the care of adults with self-care deficits and therapeutic self-care demands in a structured setting. Includes four (4) student credit hours of clinical.

NURS 3071 Nursing Systems Related to Adults I Clinical (4)

Corequisite: NURS 3070 (4)

Clinical lab.

NURS 3080 Life-Span Pharmacology (3)

Prerequisites: completion of sophomore-level nursing courses or permission of program director

Integrates the principles of pharmacology and pathophysiology for clients across the life span. Emphasizes pharmacotherapeutics for disorders across the life span.

360 Nursing (NURS)

NURS 3120 Assessment of Self-care Requisites (3, 1)

Prerequisites: admission to the R.N.-B.S.N. track; *Corequisite:* NURS 3221 (1)

Prepares the student to assess universal, developmental, and health deviation self-care requisites. Includes one (1) student credit hour of lab.

NURS 3150 Nursing Informatics (1)

Prerequisites: admission to the R.N.-B.S.N. track

This course provides students with an overview of nursing informatics and the theoretical foundation for information management within the health-care setting. Students will explore technological advances related to health-care delivery and a variety of information systems.

NURS 3180 Pharmacology of Self-Care (2)

Prerequisites: admission to the R.N.-B.S.N. track

Integrates the principles of pharmacology and pathophysiology for clients across the life span and principles of psychopharmacology in relation to the neurological and biological effects of chemical imbalances on human behavior.

NURS 3220 Child Health Promotion (2)

Prerequisites: completion of sophomore-level nursing courses

Prepares the student to apply knowledge of development and health promotion while caring for infants, children, and adolescents. Emphasizes health teaching.

NURS 4000 Preceptor Experience (2)

Prerequisite: completion of all 2000 and 3000 nursing courses and approval of School of Nursing

An elective course that offers refinement of clinical skills, organizational principles, and care under the supervision of Registered Nurse preceptors at Vanderbilt University Medical Center and the Austin Peay School of Nursing faculty. This course is offered only in the summer semester for current nursing students who have completed all 2000- and 3000-level nursing courses. Space is limited, and enrollment must be approved by the School of Nursing. 280 Clinical Hours.

NURS 4010 Introduction of Research for the Nursing Agency (3)

Prerequisite: completion of junior-level nursing courses

Introduces the research process with emphasis on the evaluation and application of nursing research.

NURS 4040 Nursing Systems Related to the Childbearing Family (3)

Prerequisite: completion of junior-level nursing courses; *Corequisite:* NURS 4041 (4)

Prepares the student to apply knowledge of development and assessment skills while caring for infants, children, adolescents, and the childbearing family. Emphasizes health teaching.

NURS 4041 Nursing Systems Related to the Childbearing Family Clinical (3)

Corequisite: NURS 4040

Clinical lab.

NURS 4050 Nursing Agency in the Community (3)

Prerequisite: completion of junior-level nursing courses; *Corequisite:* NURS 4051

Introduces the student to community health care. Provides experiences with individuals, families, and groups in the community setting.

NURS 4051 Nursing Agency in the Community Clinical (3)

Corequisite: NURS 4050

Clinical lab.

NURS 4060 Nursing Systems Related to Adults II (4)

Prerequisite: NURS 4010 may be taken concurrently and successful completion of junior nursing courses;

Corequisite: NURS 4061

Continued application of the nursing process in the care of adults, with self-care deficits and therapeutic self-care demands of a complex nature in a variety of settings.

NURS 4061 Nursing Systems Related to Adults II Clinical (4)

Corequisite: NURS 4060

Clinical lab.

NURS 4070 Leadership and Management for the Nursing Agency (3)

Prerequisites: completion of junior-level nursing courses; completion of 4060 is required prior to initiating;

Corequisite: NURS 4071 (4)

Introduces managerial and leadership issues and concepts, and helps the student apply them to the professional nurse role. Includes three (3) student credit hours of clinical.

NURS 4071 Leadership and Management for the Nursing Agency Clinical (3)

Corequisite: NURS 4070

Clinical preceptorship.

NURS 4080 Trends and Issues for the Nursing Agency (2)

Prerequisite: completion of junior-level nursing courses

Promotes sensitivity to the potential for nurse-initiated change through evaluation of current trends and Issues, impacting upon health-care delivery and the nursing profession. (This course should be taken during the semester in which the student is scheduled to graduate.)

NURS 4100 Clinical Integration II (1)

Prerequisite: This course must be taken during the semester in which the student is scheduled to graduate from the B.S.N. program.

A clinical synthesis of normal anatomy, physiology, assessment parameters, pathophysiology, and nursing assessment concepts in patients with selected illnesses. Students are guided through the steps of problem solving, prioritizing needs, determining short-term and long-term goals, anticipating therapeutic interventions, and initiating appropriate nursing care within a self-care theory framework.

NURS 4120 Clinical Integration (3)

Prerequisite: admission to the R.N.-B.S.N. track

A clinical synthesis of normal anatomy and physiology, assessment parameters, pathophysiology, and nursing assessment concepts in patients with selected illnesses. Students are guided through the steps of problem solving, prioritization of needs, determining short-term goals, anticipating therapeutic intervention, and initiating appropriate nursing care within a self-care theory framework. A one hour practicum will validate transfer of knowledge from the classroom to the clinical experience.

362 Philosophy (PHIL)

PHILOSOPHY (PHIL)

PHIL 1030 Introduction to Philosophy (3)

(course renumbered from PHIL 2000)

The method and content of philosophy as a tool to understand the nature of humankind and the world. Primary aims will be to develop the vocabulary and the issues of the major fields of philosophy: metaphysics, epistemology, philosophy of religion, political philosophy, and ethics.

PHIL 1040 Introduction to Ethics (3)

Examines fundamental issues in ethical theory and metaethics and the application of ethical theory to contemporary moral issues in fields such as business, medicine, criminal justice, education, and environmental studies.

PHIL 2200 Religion and the World (3)

An exploration of the origins, nature, and content of religion as a source of human value, meaning, and hope. Emphasis given to the beliefs, values, symbols, and rituals of the world's major religions.

PHIL 2300 Medical Ethics (3)

Application of moral theory to major issues of biomedical ethics: the patient-professional relationship, abortion, euthanasia, allocation of medical resources, genetic engineering, and research involving human subjects.

PHIL 2310 Environmental Ethics (3)

Application of moral theory to issues and problems that arise as a result of human interaction with the environment: ecocentrism and anthropocentrism, the relative value and importance of nature, species, and individual animals, wilderness, and species preservation, and environmentalism and international justice.

PHIL 2400 Business Ethics (3)

Application of moral theory to major issues of business and management ethics: civil liberties, rights, and affirmative action; unions and distributive justice; personnel issues; health, safety, and environmental issues; capitalism; corporate and international business practice; middle management ethical dilemmas; and ethical responsibility towards consumers.

PHIL 2410 Educational Ethics (3)

Application of moral theory to education including issues in teaching, research, and service such as, paternalism, indoctrination, neutrality in evaluation, multiculturalism, academic misconduct, race, and gender issues.

PHIL 3040 History of Ethics (3)

Prerequisite: three hours of philosophy or permission of instructor

History of moral philosophy from the ancient to the contemporary periods, including Aristotle, Hobbes, Hume, Kant, and Mill.

PHIL 3050 Religious Ethics (3)

Prerequisite: three hours of philosophy or permission of instructor

A study of the moral theories of the world's religions, including Christianity, Judaism, Islam, Buddhism, and Hinduism.

PHIL 3100 Ancient Philosophy (3)

Prerequisite: three hours of philosophy or permission of instructor

History of Western philosophy from its pre-Socratic origins through Classical Greek and Hellenic thought. Emphasis is placed on the pre-Socratics, Socrates, Plato, Aristotle, the Epicureans, and the Stoics.

PHIL 3110 Medieval Philosophy (3)

Prerequisite: three hours of philosophy or permission of instructor

The Medieval worldview as a religious transformation of Greek philosophy into three cultures in conflict: Judaism, Christianity, and Islam. Emphasis is placed on Augustine, Aquinas, Maimonides, and the Muslim Aristotelians.

PHIL 3120 Modern (15th-18th Century) Philosophy (3)

Prerequisite: six hours of philosophy or permission of instructor

The history of Western philosophy from Descartes through Kant with emphasis on Continental Rationalism, British Empiricism, and Kant.

PHIL 3130 19th and 20th Century Philosophy (3)

Prerequisite: six hours of philosophy or permission of instructor

Important philosophers of the 19th century and important philosophical movements of the 20th century.

PHIL 380A Comparative World Religions (3)

A comparative study of world religions including Primal religions, Hinduism, Buddhism, The Jains, Sikhs, Zoroastrians, Judaism, Christianity, Islam, and the Baha'is.

PHIL 380B Islam as a Worldview (3)

A study of Islam that explores its history. The life of Muhammed, the Qur'an and Had'ths, the Five Pillars, basic beliefs and values, diversions of war and peace, Islamic philosophy, and the relationships among Judaism, Christianity, and Islam.

PHIL 380C The Battle of God (3)

An exploration of the Battle of God among the children of Abraham – Jews, Christians, and Muslims. The course examines the theologies of war and peace in the Jewish TANAKH, the Christian New Testament and the Muslim Qur'an and concludes by analyzing religious extremism in all three faiths.

PHIL 3900 Informal, Categorical and Propositional Logic (3)

Prerequisites: 3 hours of PHIL or MATH 1010 or 1420 or permission of instructor

Analysis of the nature and functions of language, recognition of arguments, and development of the tools of logic and critical reasoning such as deduction, induction, validity, the informal fallacies and categorical and propositional logic.

PHIL 4015 War and Ethics (3)

An exploration of the morality and warfare, including the justification of waging war and the ethical limits of its conduct. Proposed principles will be critically discussed and applied to historical cases. Content will include the perspectives of just war theory, pacifism, realism, and international law.

364 Philosophy (PHIL)

PHIL 4100 Social-Political Philosophy (3)

Prerequisite: six hours of philosophy or permission of instructor

Historical and contemporary issues in social and political philosophy.

PHIL 4500 Philosophy of Religion (3)

Prerequisite: six hours of philosophy or permission of instructor

Basic philosophical issues of religion and the religious life. The nature of religion, the relationship between faith and reason, the existence of God and the problem of evil, and the immortality of the soul will be discussed.

PHIL 4600 Literature and Philosophy of Existentialism (3)

Prerequisite: three hours of philosophy or permission of the instructor

The literature and philosophy of existentialism from Kierkegaard to Sartre. Questions to be considered: What does it mean to be human? Is man free? What is absurdity? What is self-deception?

PHIL 4720 Ethical Theory

Prerequisite: six hours of philosophy or permission of instructor

An examination of contemporary problems in ethical theory. Rationality of moral judgments and moral standards, the nature of moral language, moral relativism and skepticism, punishment, blame, and free will and the ought/is problem.

PHIL 4910 Epistemology (3)

Prerequisite: six hours of philosophy or permission of instructor

Classical and contemporary readings in the theory of knowledge; the nature of knowledge, skepticism, theories of truth, concepts of evidence and rationality, and the justification of induction.

PHIL 490A Seminar: Philosophy (3)

Prerequisite: six hours of philosophy or permission of instructor

Advanced seminar in selected topics in philosophy.

PHYSICAL EDUCATION ACTIVITIES (PHED)

PHED 1xxx Selected Physical Education Activities (1 each)

Provides instruction in fundamental skills and knowledge of physical or recreational skills which are popular and which are not included in the regular curricular offerings.

PHED 1012 Beginning Karate

PHED 1014 Intermediate Karate

PHED 1050 Beginning Tennis

PHED 1060 Beginning Golf

PHED 1190 Aerobic Dance

PHED 1210 Weight Training

PHED 1250 Advanced Tennis

PHED 1260 Advanced Golf

PHED 1310 Physical Fitness

PHYSICS (PHYS)**PHYS 1005 Preparation for College and University Physics (2)**

Prerequisites: two years of high school algebra, MATH 1110 or equivalent

This course is designed to teach students the problem-solving skills needed for either college or university physics. The course uses math skills the students already possess and applies them to physical situations.

PHYS 1010 Understanding the Physical World - Three hours lecture, three hours lab (4)

Corequisite: PHYS 1011

Motion, energy, and properties of matter, heat, and sound. The approach is conceptual and non-mathematical. The role of physics in the understanding of everyday experiences in our technological society. Laboratory 1011 is to be taken concurrently.

PHYS 1020 Understanding the Physical World - Three hours lecture, three hours lab (4)

Corequisite: PHYS 1021

Electricity and magnetism, light, atomic and nuclear physics, and relativity. Physics 1010 is NOT a prerequisite. The approach is conceptual and non-mathematical. The role of physics in the understanding of everyday experiences in our technological society. Laboratory 1021 is to be taken concurrently.

PHYS 1500 Computational Methods for Scientists and Engineers - Three hours lecture, three hours lab (4)

Corequisite: PHYS 1501

Selected topics in calculus and vector analysis, algorithm development and basic scientific programming skills, numerical differentiation and integration. An introduction to the application of computational solutions for the differential equations of topics like projectile motion with and without air drag, simple harmonic motion (mechanical and electrical) and the simple pendulum. Physical models will be developed and experimentally tested.

PHYS 1710 Introductory Chemistry and Physics (4) - (Same as CHEM 1710)

Introductory integrated lab/lecture course in chemistry and physics. Included are hands-on and computer-based activities in the scientific method, astronomy, motion, energy, kinetic theory, waves and sound, atomic structure, electricity and magnetism, elements and periodic properties, chemical bonding, electrochemistry, environmental issues, and linkage to NASA via the Internet.

College Physics (2010 and 2020) uses algebra and trigonometry. University Physics (2110 and 2120) uses calculus ideas and notation and has calculus as a Corequisite. College Physics satisfies the requirements for preprofessional students in medicine and dentistry. University Physics is taught for physics majors and minors and students in preengineering. It is recommended for mathematics or computer science majors. Some preprofessional students may be required to take the calculus-based sequence by their professional school.

366 Physics (PHYS)

PHYS 2010 College Physics - Four hours lecture and demonstration, three hours lab (5)

Prerequisite: MATH 1730 or ENGT 1200; *Corequisite:* PHYS 2011

The elements of mechanics, including physical measurement, linear and circular motion, simple harmonic motion, fluids, and heat. Applications of conservation laws to technological and biological systems are considered. Algebra is used extensively. Trigonometry and vectors are developed and used as needed.

PHYS 2020 College Physics - Four hours lecture and demonstration, three hours lab (5)

Prerequisite: PHYS 2010; *Corequisite:* PHYS 2021

Optics, electricity and magnetism, the atom, and the nucleus.

PHYS 2110 University Physics - Four hours lecture and demonstration, three hours lab (5)

Corequisites: MATH 1910, PHYS 2111

The same topics as covered in 2010. The mathematical level involves algebra and trigonometry and, in addition, calculus ideas, notation, and techniques.

PHYS 2120 University Physics - Four hours lecture and demonstration, three hours lab (5)

Prerequisite: PHYS 2110; *Corequisite:* PHYS 2121

Continuation of 2110, which covers the same general topics as 2020. The mathematical level involves more use of calculus than 2110.

PHYS 2500 Computational Methods for Scientists and Engineers II - Three hours lecture, three hours lab (4)

Corequisite: PHYS 2501

Computational solutions to differential equations (initial and boundary value problems) and their application to physical problems like physical and chaotic pendula, the Wilberforce pendulum, two-dimensional heat transfer, Laplace's equation, and diffractive optics. Physical models will be developed and experimentally tested.

PHYS 3005 Theoretical Methods (4)

Prerequisites: PHYS 2020 or 2120, MATH 1920; *Corequisite:* MATH 2110

The theoretical techniques used for problem solving in physics. Vector calculus, complex numbers, ordinary differential equations, and matrix methods. The theoretical techniques will be applied to physical systems.

PHYS 3010 Intermediate Mechanics (3)

Prerequisite: PHYS 3005 or permission of instructor

Kinematics and dynamics of particles in three dimensions. The mathematical level involves vector notation and equations written in differential form with the solutions to be obtained by integration and other methods.

PHYS 3030 Electricity and Magnetism (3)

Prerequisite: PHYS 3005 or MATH 2110

Electric and magnetic field theory: Coulomb's Law, Gauss' Law, Ampere's Law, Faraday's Law, Maxwell's equations for electrostatics and magnetostatics, Maxwell's equations for the dynamic case, and radiating systems and guided waves. Integral calculus and vectors are used extensively.

PHYS 3050 Introductory Circuits - Three hours lecture, three hours lab (4)

Prerequisites: PHYS 2120 and MATH 1920; *Corequisites:* PHYS 3005, 3051, MATH 2110

Ohm's and Kirchoff's laws, analysis of R, RL, and RLC circuits using mesh and nodal analysis, superposition and source of transformations, and Norton's and Thevenin's Theorems; steady state analysis of DC and AC circuits; complete solution for transient analysis of circuits.

PHYS 3060 Advanced Circuits - Three hours lecture, three hours lab (4)

Prerequisites: PHYS 3005, 3050; *Corequisite:* PHYS 3061

The study of operational amplifiers, three phase circuits, and delta and wye connections. Complex frequency analysis of circuits with sinusoidal forcing functions. The study of mutual inductance, transformers as circuit elements, and linear and ideal transformers. Trigonometric and complex Fourier analysis will be used.

PHYS 3100 Optics - Two hours lecture, six hours lab (4)

Prerequisite: PHYS 2120; *Corequisite:* PHYS 3101

Reflection and refraction, the eye, telescopes and microscopes, lasers, interference, diffraction, and polarization.

PHYS 3550 Experimental Methods - Two hours lecture, six hours lab (4)

Prerequisite: PHYS 2120; *Corequisite:* PHYS 3551

Experimental techniques used in physics and engineering, including data acquisition and control, vacuum technology, thermometry, light sources, optical components and techniques, materials and machining.

PHYS 3700 Introduction to Modern Physics (4)

Prerequisite: PHYS 2120 or permission of instructor; *Corequisite:* PHYS 3701

Relativity, quantization of radiation, matter waves, early atomic models, Schroedinger's wave mechanics, Photoelectric effect, Compton effect, Planck's constant, black body radiation, Franck-Hertz experiment, electron diffraction, atomic emission spectra, Millikan oil drop experiment, Bragg scattering, e/m ratio for the electron, and/or other modern experiments.

PHYS 3750 Laser Physics - Three hours lecture, three hours lab (4)

Corequisite: PHYS 3700

The study of lasers and nonlinear optics. Subjects may include classical optics, radiative transitions and linewidths, light absorption and stimulated emission, laser amplifiers, resonators, laser oscillators, and frequency multiplication.

PHYS 3800 Quantum Mechanics (3)

Prerequisites: PHYS 3005, 3700, 3701

Solution of quantum mechanical problems in one dimension, quantum harmonic oscillator eigenvectors and eigenvalues, Hilbert spaces, the hydrogen atom, spin, and an introduction to matrix mechanics.

368 Physics (PHYS)

PHYS 3900 Nuclear and Radiation Physics – Two hours lecture, six hours lab (4)

Prerequisite: PHYS 3700; *Corequisite:* PHYS 3901

The study of nuclear structure models, nuclear reactions, elementary particles and their interactions with matter. Experiments studying the characteristics of radioactivity, radioisotopes and detection devices.

PHYS 4000 Computational Methods - Three hours lecture, three hours lab (4)

Prerequisites: PHYS 3005, CSCI 1010 *or equivalent programming course*; *Corequisite:* PHYS 4001
Computational techniques used for problem solving in physics. Numerical techniques for solving ordinary differential and partial differential equations, and systems of equations; analysis of data; curve fitting and spectral methods; and numerical solutions of systems of equations. Applications of these techniques to physical problems.

PHYS 4110 Cooperative Educational Experience

Prerequisites: approval of physics advisor and prior arrangement with employer

Learning experience acquired through supervised full-time salaried employment at a national research laboratory, a research institution or university, or employment in a related industrial field. Grading on a pass/fail basis.

PHYS 4150 Special Topics in Physics (1)

PHYS 4160 Special Topics in Physics (2)

PHYS 4170 Special Topics in Physics (3)

Prerequisites: six hours of upper division physics and permission of instructor

Selected topics of interest in advanced physics. Topics to be chosen by the instructor and student. May be repeated for different topics for a total of up to 15 credit hours.

PHYS 4151 Research Experience (1)

PHYS 4161 Research Experience (2)

PHYS 4171 Research Experience (3)

Prerequisite: six hours of upper division physics and permission of instructor

Research activities agreed on by the student and instructor, which may emphasize lab techniques or data acquisition and analysis. Written and oral reports are required. May be repeated for a total of up to 15 credit hours.

PHYS 4200 Introduction to Solid State Physics (3)

Prerequisites: PHYS 3010 or 3030; CHEM 1120; *Corequisite:* PHYS 3800

Crystal structure; x-ray diffraction; energy band theory; electric, magnetic, and thermal properties of materials; and recent developments in nanotechnology.

PHYS 4300 Image Processing (3)

Prerequisite: PHYS 3005

An introduction to the basic techniques of digital image processing. Modern approaches to image acquisition, image enhancement, and image analysis. A significant amount of mathematics background is required since a good portion of the course deals with spatial domain and frequency domain image operators.

PHYS 4810 Theoretical Mechanics (3)

Prerequisite: PHYS 3010

Mechanics for those who expect to do graduate studies. Vector calculus, matrices, and differential equations are freely used.

PHYS 4830 Theoretical Electricity and Magnetism (3)

Prerequisite: PHYS 3030

Electromagnetic fields for those planning to continue study at the graduate level. The mathematical level is similar to that of 4810.

PHYS 4850 Advanced Quantum Mechanics (3)

Prerequisite: PHYS 3800

Quantum mechanics for those planning to continue study at the graduate level including wave and matrix mechanics.

PHYS 4950 Independent Study in Physics (1)**PHYS 4960 Independent Study in Physics (2)****PHYS 4970 Independent Study in Physics (3)**

Prerequisites: six hours of upper division physics and permission of instructor

Current topics in physics. Topics to be chosen by student. Subject to be approved by instructor. May be repeated with permission of instructor.

*Credit for PHYS 1710 may not be combined with CHEM 1010 or PHYS 1010 to fulfill the V.B. Liberal Arts core requirements.

POLITICAL SCIENCE (POLS)**POLS 1000 Introduction to Legal Assistance and Ethics (3)**

An examination of the paralegal/legal assistant profession, including duties, employment settings, skills, standards of conduct, and ethics.

POLS 1002 Introduction to Law (3)

An overview of the major principles and functions of the legal system. An introduction to legal fields and the work of the legal assistant in those fields.

POLS 1004 Torts (3)

A study of civil wrongs for which the victim may receive compensation and the role of the legal assistant in tort litigation.

POLS 1005 Legal Research (3)

Legal bibliography, including codes, administrative regulations, reporters, digests, encyclopedias, citations, law reviews, and treaties.

POLS 1006 Legal Writing (3)

Legal writing skills including precision and clarity, legal citation and format, drafting of law office and trial memoranda, trial court briefs, appellate briefs, and abstracting depositions.

POLS 1008 Civil Trial and Appellate Practice (3)

Civil court procedures. Preparation and use of documents involved in the trial and appeal of civil action.

370 Political Science (POLS)

POLS 1015 Paralegal Internship (3)

An internship working as a paralegal for a local attorney. The student will work 10 hours a week.

POLS 2010 American National Government (3)

Institutions and processes of American national government, including the Constitution, federalism, civil rights and liberties, the presidency, Congress, courts, political parties, elections, public opinion, media, interest groups, and the federal administrative process.

POLS 2040 Introduction to Public Policy (3)

The policy-making process with an emphasis on selected policy areas. Specific policy areas included are welfare, criminal justice, education, civil rights, energy, the environment, and regulation of the economy.

POLS 2070 International Politics (3)

The system of the nation-state, power and ideology, the diplomatic process, colonialism and imperialism, regions and crises, international organization and law, war and peace, and the United States in World Affairs.

POLS 3000 Foundations of Political Theory (3)

This course will introduce students to political theory via primary texts, with the main focus being on western political thought since the time of the ancient Greeks. However, some attention will be given to prominent non-Western political theorists.

POLS 3010 Comparative Politics (3)

A theoretical and empirical comparison of various political processes, structures, and ideologies among selected countries in four continents (Africa, Asia, Europe, and South America) designed to identify and highlight significant causes and effects of different political models and practices.

POLS 3020 American Foreign Policy (3)

The making of American foreign policy: institutions, processes, problems, and crises.

POLS 3040 U.S. Defense Policy (3)

U.S. National Defense organization, policies, procedures and players, the emergence of the current policy of engagement following the cold war, and potential future threats and challenges.

POLS 3060 Terrorism and Counter-Terrorism (3)

An in-depth examination of the contemporary phenomenon and problem of world terrorism. This course will focus on the world reality of terrorism and the war of counter-terrorism.

POLS 3070 Theories of International Relations (3)

A systematic and rigorous study of politics among states, including an examination of the principal theories concerning international systems of the past and present.

POLS 3090 The United Nations (3)

This course is designed to serve a dual purpose. Students will learn about the history, structure, and workings of the United Nations in a lecture-discussion format. Additionally, students will have the opportunity to see how the politics of the UN works through role playing.

POLS 3110 British Politics and Government (3)

Prerequisite: junior standing or permission of instructor

An examination of the evolution, traditions, institutions, processes, policies, and politics of the United Kingdom of Great Britain and Northern Ireland. The comparative perspective will be emphasized.

POLS 3120 European Politics (3)

Prerequisite: junior standing or permission of instructor

An examination of the politics, government, and unity of continental European states with an emphasis upon Germany, France, Russia, and Italy.

POLS 3140 Latin American Politics (3)

An examination of the politics and government of Central and South America and the Caribbean island states. An emphasis will be placed upon regional political trends along with profiles of the politics and government of certain states such as Mexico, Argentina, Brazil, Cuba, and Chile.

POLS 3160 African Politics (3)

The politics of sub-Saharan Africa; a comparative analysis of the behavior, participation, and structures in the various movements for the liberation of Africa. Problems relative to colonialism, East-West confrontation and internal policies are examined.

POLS 3180 Middle East Politics (3)

An examination of the history, culture, and politics of the Middle East. The countries covered are Turkey, Iran, Egypt, Syria, Lebanon, Saudi Arabia, Jordan, Iraq, Israel, and the Gulf States. The course also discusses Islam, religious fundamentalism in the region, and terrorism.

POLS 3190 Russian Politics and Government (3)

Prerequisite: junior standing or permission of instructor

An examination of the contemporary Russian political institutions, processes and state-society relations. The historical context and comparative analysis will be emphasized.

POLS 3200 Politics and Government in China (3)

Prerequisite: junior standing or permission of instructor

This course will examine the historical context and current issues of the Chinese political system. Special attention will be devoted to the US-Chinese economic interdependence and comparative analysis of the Communist and post-Communist political systems.

POLS 3360 Study Abroad: Africa (6)

Designed to provide students with a hands-on learning experience on and about African politics and culture.

POLS 3760 Methods of Research (3)

The nature of the scientific method and basic techniques in social science research as applied to the collection, analysis, and interpretation of social and political data.

POLS 4010 Contemporary Political Ideas (3)

This course examines current trends in political theory. Topics include ideologies, the liberal communitarian debate, human rights, feminism, and postmodernism. Examples are drawn from both Western and non-Western sources.

372 Political Science (POLS)

POLS 4020 The Politics of Contemporary African American Thought and Movement (3)

An analysis of political processes, structures, organizations, opinions, and leadership from the African American perspective and African Americans having current significance.

POLS 4040 Women and Politics (3)

The role of women in politics. Women and the political process, political institutions, and public policy.

POLS 4050 Health Care Policy in the United States (3)

An examination of the development and current status of American health care policy, with particular attention to access, cost, health outcomes, and quality. The structures of health care policy and delivery and reform models will be covered.

POLS 4070 Politics in the American States (3)

Politics at the state level focusing on legal and cultural settings, political behavior, and institutions and public policy.

POLS 4080 Urban Politics (3)

Politics in urban areas with special attention to socioeconomic conditions, governmental structures, citizen participation, community power studies, metropolitan governance, and policy problems.

POLS 4130 Political Parties and Interest Groups (3)

Characteristics of the political party system, and the operation of interest groups in American politics. Party organizations, voting behavior, and campaigns are emphasized along with interest group activities and strategies.

POLS 4170 Power, Morality, and International Relations (3)

This course examines the influences of moral principles on international politics. Among the issues examined are human rights, just and unjust wars, arguments for and against redistributive justice on a global scale, legal and illegal migration, human trafficking, terrorism, environmental degradation, and the impact of different religions on international relations.

POLS 4200 The American Presidency (3)

The roles, powers, and institutions of the American Presidency.

POLS 4210 Legislative Process and Behavior (3)

Congressional elections, norms, committees, voting behavior, leadership, and legislative-executive interaction.

POLS 4220 Political Leadership (3)

This course will examine the evolution and nature of political leadership at various levels, in different branches, and among the many institutions of government and politics.

POLS 4300 Judicial Politics and Behavior (3)

The American judicial system: structure of the court system, police behavior, lawyers, juries, and judicial decision making.

POLS 4310 American Constitutional Law I (3)

Prerequisite: upper division standing

Using the case method, this course examines the development of constitutional law in America, to include the division and placement of national power, the structure and operation of the federal court system, judicial review, the limitations upon the use of judicial power, and the growth of federalism.

POLS 4320 American Constitutional Law II (3)

Prerequisite: 4310 or permission of instructor

Using the case method, this course examines important federal and Supreme Court decisions in the area of civil rights and civil liberties, to include fundamental rights, economic due process, eminent domain, mass media, and criminal law.

POLS 4330 Women and the Law (3)

Examination of how laws apply to women and when women are treated differently than men: 14th amendment, the Equal Pay Act, sexual harassment, privacy, and domestic violence.

POLS 4340 Family Law (3)

Examination of the legal issues involved in marriage, divorce, child custody, child support, and adoption.

POLS 4350 Labor and Employment Law(3)

A Political Science and Law course designed to introduce students to fundamental elements, principles, and legal rules of labor and employment/workplace law. Both Federal and State relevant laws shall be examined.

POLS 4360 Legal Mediation and Alternative Dispute Resolution (3)

An examination of legal mediation as an alternative to trials for settling civil disputes. There is a consideration of mediation procedures, ethical issues, and mediation as a profession.

POLS 4370 Juvenile Law (3)

This course is designed to provide an understanding of juvenile law. Topics covered include child abuse and neglect, juvenile criminal offenders, gangs, sexual predators, education and truancy, mental health, drug and alcohol programs, corrections, paternity, and child support.

POLS 4400 Politics and Mass Media (3) - (Same as COMM 4400)

The influence of the mass media on political opinions, elections, those who participate in the political arena, and public policy decisions. The uses political participants make of the mass media in shaping public opinion, conducting elections, deciding on policy issues, and the media's agenda for political coverage.

POLS 4444 Cultural Context of Political and Social Ideas (3)

Prerequisite: junior or senior standing

Capstone to integrate aspects of the Liberal Arts core with political and social concepts of freedom, justice, and equality addressed in different cultures.

374 Political Science (POLS)

POLS 4510 Communication and Public Opinion (3) - (Same as COMM 4510)

The purpose of this course is to provide an overview of the concept of “public opinion” and to explore the relationships between communication and public opinion. An important normative goal will be to explore ways to allow media messages to contribute to a healthy civic life rather than deviate from it.

POLS 451A, B, C Selected Topics in Political Science (3 each)

An examination of a selected topic by an instructor on a one-time basis.

POLS 453A, B, C Problems in Political Science (3 each)

An independent study course with supervised readings and/or research projects in selected areas of political science. Open only to political science majors with permission of the department chair.

POLS 4540 Legislative Internship Program (15)

Work as a staff member of the Tennessee Legislature. Open only to juniors, seniors, or graduate students selected to participate in the Tennessee Legislative Internship Program.

POLS 455A, B, C Government Internship (3, 6, 9)

Prerequisite: junior or senior standing

Internship in the governmental process.

PSYCHOLOGY (PSY)

PSY 1010 General Psychology (3)

A general introduction to psychology as the scientific study of behavior and mind. Sample topics include the biological bases of behavior, sensation, and perception, learning and cognition, emotion and motivation, development, abnormal behavior, personality, and social behavior.

PSY 1210 Psychology of Adjustment (3)

The study of understanding personal and social adjustment. Topics covered include the pattern of healthy development, the demands occurring in everyday life, and the nature of effective adjustment.

PSY 2000 Career Planning in Psychology (1)

Prerequisite: PSY 1010

Provides information for the student to derive the greatest benefit from the psychology program and helps the student develop a plan to achieve his or her career aspirations.

PSY 2010 Statistics for the Behavioral Sciences (3)

Prerequisite: completion of mathematics core requirement

A basic introduction to statistics as they are applied in the behavioral sciences. Both descriptive statistics (measure of central tendency, variability, and correlation) and inferential statistics (hypothesis testing, parametric, and nonparametric tests of significance) are covered.

PSY 2210 Human Interaction (3)

Directed toward helping persons establish, maintain, and improve human contacts. Focuses upon improving listening, assertiveness problem solving, and leadership skills. Skill acquisition is enhanced through role play, taping, and group experiences.

PSY 3010 Learning and Motivation (4)

Prerequisites: PSY 1010, 2010, 3180

Provides an in-depth analysis of the different principles and theories of learning and motivation with attention to animal research. Students will apply what they learn to animal subjects to gain experience working with different species and write up their results in two (2) APA-style manuscripts. When appropriate, examples from research in children, adults, and special populations will also be provided.

PSY 3020 Physiological Psychology (4)

Prerequisites: PSY 1010, 2010, 3180

An in-depth presentation of the structural and functional characteristics of the mammalian nervous system. Students will apply what they learn to animal subjects to gain experience working with different species and write their results in two (2) APA-style manuscripts. When appropriate, examples from research in children, adults, and special populations will also be provided.

PSY 3030 Sensory Processes (4)

Prerequisites: PSY 1010, 2010, 3180

An overview of the major topics in human sensation and perception. The course will focus on sensory system structure, function, and information processing. How this information explains human perceptual abilities and limitations will be discussed. This course includes both lecture and laboratory activities.

PSY 3040 Cognitive Processes (4)

Prerequisites: PSY 1010, 2010, 3180

The scientific study of basic cognitive processes. Topics include pattern recognition, attention, memory, concept formation, reasoning, problem solving, intelligence, and language. This course includes both lecture and laboratory activities.

PSY 3100 Developmental Psychology (3)

Prerequisite: PSY 1010

This course provides an overview of the empirical evidence regarding physical, cognitive, social, and emotional changes that occur from conception to death. Emphasis will be placed on understanding the various biological, environmental, and cultural influences on human development.

PSY 3110 Child Development (3)

Prerequisite: PSY 1010 or EDUC 2100

The scientific study of human development from conception through pre-adolescence. Cognitive, physical, social, emotional, and moral areas of development will be studied through the examination of empirical, conceptual, and theoretical materials. Attention will be given to child development as it occurs in the contexts of school, family, and peer environments.

376 Psychology (PSY)

PSY 3120 Adult Development (3)

Prerequisite: PSY 1010

The scientific study of human development in the adult years. Attention will be given to continuity and change in intellectual, personality, and biological areas of development, and in the areas of family structure and career development.

PSY 3130 Introduction to Educational Psychology (3)

Prerequisite: PSY 1010 or EDUC 2100

Provides prospective teachers an understanding of the way students learn and develop. The learning process, its determining conditions, and its results will be emphasized. The course will also provide an overview of child and adolescent development as it relates to student behavior.

PSY 3180 Research Methods (3)

Prerequisites: PSY 1010, 2010

Introductory methods of psychological research are presented. An analysis of various research designs is also examined. A research proposal, following APA format, is required.

PSY 3200 Adolescent Development (3)

Prerequisite: PSY 1010 or EDUC 2100

The scientific study of human development from preadolescence through late adolescence. Cognitive, social, emotional, and physical areas of development will be studied through examination of empirical, conceptual, and theoretical materials. Attention will be given to adolescent development as it occurs in the contexts of school, family, and peer environments.

PSY 3210 Psychology of Women (3)

Examination of developmental characteristics of women, myths and stereotypes, sex roles, sexuality, lifestyles, values, achievement motivation, power, mental health, and mental disorders in women. The empirical study of the psychological issues of women will be emphasized.

PSY 3230 African American Psychology (3)

This course explores historical and contemporary psychological issues concerning persons of African American descent. Issues including racial identity, gender, worldview, and the sociocultural experiences of persons of African American descent in the diaspora will be addressed. Presentation and review of psychological theories and research will be the foundation of the course.

PSY 3280 Tests and Measurements (3)

Prerequisite: PSY 1010 or 3130

Development and use of tests will be studied. Emphasis will be given to test construction, reliability, and validity. The course provides practical experience in the development and use of instruments. Students are required to design and analyze an instrument.

PSY 3290 Introduction to Psychological Measurement (3)

Prerequisite: PSY 2010 or MATH 1530

An introduction to theory and practice in psychological measurement. Classical and modern theories of measurement are studied. The relevance and use of current measure of personality, achievement, and aptitude are examined. Various methods of collecting psychological information are surveyed.

PSY 3330 Social Psychology (3)

Prerequisites: PSY 1010

A systematic and scientific approach to the psychological problems of social and human interactions. Topics covered: attitude, altruism, attraction, attribution, aggression, social self, social influence, social cognition, social perception, leadership, group dynamics, prejudice, discrimination, and applied social psychology.

PSY 3340 Health Psychology (3)

The study of the biopsychosocial approach to health and wellness. This course emphasizes the learning of skills that lead to healthy responses to stress and the enhancement of psychological resiliency. A major focus of the course will be on the practice of skills that lead to healthy interpersonal functioning of the individual in their familial and social context.

PSY 3500 Consumer Psychology (3)

Application of psychological theory and applied research methods to the study of consumer behavior. The psychological processes that influence consumer decision making will be addressed, including problem recognition and information search, alternative evaluation and choice behavior, and post-purchase attitudes and behavior. The antecedents and consequences of consumer satisfaction will be highlighted.

PSY 4000 History and Systems of Psychology (3)

Prerequisites: PSY 1010 and junior or senior standing

The development of psychology from the philosophical antecedents to its present status as a science and a profession. Each system of ideas which has contributed to the development of psychology will be studied and evaluated.

PSY 4010 Death, Dying, and Bereavement (3)

Prerequisite: junior or senior standing or permission of instructor

An overview of death issues from a multicultural, developmental perspective. Topics covered include changing attitudes, the American death system, death across the life span, coping, supporting caregivers, ethical/legal issues, funeral and memorialization practices.

PSY 4050 Applied Psychopharmacology (3)

Prerequisite: PSY 1010 or permission of instructor

An introduction to psychopharmacology that will examine prescription, legal and illegal drug effects on the brain and behavior, including withdrawal and abuse. Clinical, legal, and ethical aspects will also be discussed. A NIH grant proposal will also be taught and evaluated.

PSY 4060 Group Dynamics (3)

Analysis of the nature and origin of small groups and interaction processes. Emphasis on methodology, group development, conflict, decision making, leadership, and task performance.

PSY 4120 Human Factors (3)

Prerequisites: PSY 1010, 2010, 3180, and junior or senior standing or permission of instructor

Introduction to applied experimental psychology. The course covers human ability in the areas of perception, cognition, and motor skills and how this information is used in the design of machines, displays, software, and everyday appliances.

378 Psychology (PSY)

PSY 4140 Learning and Behavioral Disorders (3)

Prerequisite: PSY 1010 or 3130

An overview of theories, characteristics, assessment, and treatment of learning disabilities and behavioral disorders. Program considerations for learning disabled and behavioral disordered children will be highlighted.

PSY 4150 Behavior Modification: Theories and Practice (3)

Prerequisite: PSY 1010

Theories, principles, and techniques of cognitive and behavioral management for use in schools, clinics, hospitals, and agencies; emphasizes behavior management techniques.

PSY 4350 Psychology of Personality (3)

Prerequisites: PSY 1010 and junior or senior standing

The major theories of human personality are studied with emphasis on scientific research in the area.

PSY 4360 Abnormal Psychology (3)

Prerequisites: PSY 1010 and junior or senior standing

A consideration of various forms of psychological abnormality in terms of the settings in which they appear. Attention directed to methods of prevention and treatment. Topics covered: anxiety disorders, functional psychosis, and mental disorders with brain pathology.

PSY 4370 Introduction to Clinical Psychology (3)

Prerequisites: PSY 4360 and junior or senior standing

Introduces students to major perspectives and practices in contemporary clinical psychology. Reviews clinical interventions in response to psychopathology; focuses on case conceptualization, specialty areas within the field, and practical issues in the professional practice of psychology in clinical settings.

PSY 4380 Military Psychology (3)

Prerequisites: PSY 1010

This course provides a survey of the major areas in military psychology. Principal topics include: leadership training, persuasion and propaganda, human factors engineering, selection, classification and assignment, optimizing human performance under adverse conditions, ethnic diversity and gender issues, clinical and consulting activities and careers in military psychology.

PSY 4444 Cross-Cultural Psychology (3)

The understanding of human behavior across cultural contexts.

PSY 4500 Psychology Applied to Work (3)

Survey course covering the major topics within the field of I/O psychology, including employee selection, training, and development, performance appraisal, job analysis, leadership, work motivation, and organizational development.

PSY 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680 Special Topics (1-3 each)

Prerequisites: PSY 1010 and permission of instructor

Advanced readings and research in selected area offered on an individual basis. Primarily for those majoring in psychology.

PSY 4840 Honors: Research (3)

Prerequisites: a minimum cumulative GPA of 3.0 and permission of instructor

This course is offered on an individual basis. Students are required to design, conduct, and report the results of an original research project. The student is responsible for identifying a faculty supervisor.

PSY 4850 Honors: Field Experience (3)

Prerequisites: a minimum cumulative GPA of 3.0 and permission of instructor

A field experience opportunity in which students work in the local community under the supervision of a professional. It provides a practical context in which the student can apply, integrate, and analyze classroom learning. The student is responsible for identifying a faculty supervisor and a potential field placement. The student, faculty supervisor, and field supervisor will develop a contract designating the academic responsibilities and field placement responsibilities.

QUANTITATIVE METHODS (QM)**QM 2110 Business and Economic Statistics I (3)**

Prerequisites: MATH 1110 or equivalent (at least two years of high-school algebra and advanced high-school or college-level mathematics computer literacy)

An introduction to basic statistical concepts and techniques applied to business decision making. The topics covered include descriptive statistics, probability, sampling, statistical estimation, and testing of hypotheses.

QM 3110 Statistics for Business and Economics (3)

Prerequisites: MATH 1530, junior standing or permission of instructor

Intermediate level coverage of statistical concepts and techniques as applied to business and economic decision making. Major topics discussed will include hypothesis testing, analysis of variance, regression and correlation, time-series analysis, and nonparametric methods.

RADIOLOGIC TECHNOLOGY (RLTN)**RLTN 2050 Medical Terminology - One hour lecture (1)**

Prerequisite: one year freshman English

Not open to students majoring or minoring in biology. An introduction to medical vocabulary including definition of terms, general usage, spelling, and pronunciation. Common prefixes, suffixes, word roots, combining forms, and abbreviations concerned with the health professions are stressed.

RLTN 3000 Introduction to Radiologic Technology - Two hours lecture (2)

Open only to majors admitted to the radiologic technology program in radiography concentration. A study of professional organizations, ethics, legal issues, radiation protection, methodology, and elementary imaging techniques.

380 Radiologic Technology (RLTN)

RLTN 3010 Patient Care and Interaction - Three hours lecture (3)

Open only to majors admitted to the radiologic technology program in radiography concentration. A study of the physical and psychological needs of the family and patient, patient transfer techniques, interaction with the terminally ill, vital signs, administration of injections, pharmaceuticals, contrast media, IV and tube maintenance, urinary catheterization, ECG's, emergency medical situations, infectious disease process, and universal precautions.

RLTN 3020 Image Production and Evaluation I - Three hours lecture (3)

Prerequisite: RLTN 3000

A study of factors influencing radiographic quality and conditions influencing exposures, technique charts, and artifact analysis.

RLTN 3030 Radiographic Procedures I - Three hours lecture, four hours lab (5)

Open only to majors admitted to the radiologic technology program in radiography concentration. A study of radiographic procedures involving the chest, abdomen, upper and lower extremities, shoulder girdle, pelvis, and spine. Emphasis on equipment manipulation, quality assurance, quality control, evaluation of radiographs, and radiologic techniques.

RLTN 3040 Radiographic Image Analysis - Three hours lecture (3)

Prerequisite: RLTN 3080; *Corequisite:* RLTN 3030

Open only to majors admitted to the radiologic technology program in radiography concentration. A study designed to provide a basis for analyzing radiographic images. Included are the importance of minimum imaging standards, discussion of a problem-solving technique for image evaluation and factors that affect image quality.

RLTN 3080 Introduction to Clinical Education - Two hours (2)

Open only to majors admitted to the radiologic technology program in radiography concentration. Supervised clinical practice in performing radiographic procedures.

RLTN 3082 Clinical Education I - Two hours (2)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080

Supervised clinical practice in performing radiographic procedures.

RLTN 3083 Clinical Education II - Two hours (2)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3082

Supervised clinical practice in performing radiographic procedures.

RLTN 3115 Image Production and Evaluation II - Two hours lecture, one hour lab (2)

Prerequisite: RLTN 3020

A study of image qualities and image production to include radiographic qualities, production, and properties of x-rays, types of distortion, primary exposure factors, and control of scatter radiation.

RLTN 3116 Radiobiology and Radiation Protection - Three hours lecture (3)

Prerequisites: RLTN 3000, 3010

A study of biological, chemical, and physical effects of radiation. Emphasis is placed on radiation measurement and exposure to minimize somatic and genetic effects.

RLTN 3117 Quality Control in Radiologic Technology - Two hours lecture (2)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3115, 3116

Equipment testing, analysis of quality control data and quality assurance data, federal government guidelines, and introduction to total quality management and procedures within the discipline of radiologic technology.

RLTN 3140 Radiographic Procedures II - Three hours lecture, four hours lab (5)

Prerequisites: RLTN 3000, 3010, 3030

A study of procedures involving vertebral column, bony thorax, skull, facial bones, mastoids, mammography, and visceral organs requiring use of contrast media.

RLTN 4030 Radiographic Procedures III - Three hours lecture (3)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3082, 3083, 3115, 3116

A study of special procedures involving computed tomography (CT), magnetic resonance imaging (MRI), vascular studies, nuclear medicine technology (NM), and ultrasonography (US).

RLTN 4032 Clinical Education III - Two hours (2)

Prerequisites: RLTN 3080, 3082, 3083

Supervised clinical practice in performing radiographic procedures.

RLTN 4084 Clinical Education IV - Three hours (3)

Prerequisites: RLTN 3080, 3082, 3083

Supervised clinical practice in performing radiographic procedures.

RLTN 4085 Clinical Education V - Three hours (3)

Prerequisites: RLTN 3080, 3082, 3083, 4032, 4084

Supervised clinical practice in performing radiographic procedures with emphasis on advanced specialties such as MRI, CT, mammography, or cardiovascular interventional radiology.

RLTN 4116 Radiation Physics - Three hours lecture, three hours lab (4)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3083, 3115, 3116, 4032

A study of interaction of radiation matter, and formation of photographic and electronic images. An introduction of the physics of magnetic resonance imaging and computed tomography.

RLTN 4550 Radiographic Pathology - Three hours lecture (3)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3083, 3115, 3116, 4032

A study of radiographic pathology and its effect in the production of radiographs.

RLTN 4570 Management in Radiologic Technology - Two hours lecture (2)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3083, 3115, 3116, 4030, 4032, 4084, 4116, 4550

A study of management principles, organizational, administration, human resource management, and automation of radiologic departments.

382 Radiologic Technology (RLTN)

RLTN 4580 Research Methodology in Radiologic Technology - Three hours lecture (3)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3083, 3115, 3116, 4030, 4032, 4084, 4116, 4550

Methods of research and design of research studies relative to radiologic science. Determination of appropriate statistical test and analysis of data will be emphasized.

RLTN 4590 (RLTN 4590) Registry Review for Radiologic Technologists - Three hours lecture (3)

Prerequisites: RLTN 3000, 3010, 3020, 3030, 3080, 3083, 3115, 3116, 4030, 4032, 4084, 4116, 4550

Capstone course of the program. Synthesis and application of didactic and clinic courses. Test taking strategies and review for national certification examination will be emphasized.

RLTN 484A, B Radiologic Lab Internship (15 each)

Two semesters of internship providing practical application of the skills and abilities in radiologic technology. Students are assigned to an accredited hospital in a designated technology area of diagnostic radiology, nuclear medicine, computerized axial tomography, ultrasound, nuclear magnetic resonance, Positron emission tomography, and radiation therapy.

READING (RDG)

RDG 4010 Teaching the Language Arts: K-6 (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Includes organization and assessment strategies, materials and methods of teaching the language arts for elementary grade students. Interrelatedness of these skills is stressed through activities which teach children of all cultures to think and communicate. A field experience is required.

RDG 4020 Teaching Reading: K-3 (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Includes scope and sequence of skills; assessment; organization strategies; materials and methods of listening; and speaking, writing, and reading for preschool and primary grade students. Interrelatedness of these skills stressed through activities which teach children of all cultures to think and communicate. A field experience is required.

RDG 4030 Literacy in the Upper Elementary Grades (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

This course is designed to provide preservice students with research-based methods and procedures of teaching a balanced literacy approach in the upper elementary grades (4-6 grades). Field-based work and a preclinical experience will be required.

RDG 4040 Content Reading (3)

Prerequisite: must meet Milestone II requirements (provisional admission status)

A course designed for elementary teachers in the strategies for developing literacy skills in the content areas.

RDG 4050 Literature for Children (3)

Prerequisite: must meet Milestone II requirements (provisional admission status)

Appreciation, selection, and use of children's literature as related to curriculum enhancement and the needs of children.

RDG 4060 Addressing Literacy Difficulties (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

This course is designed to acquaint students with methods and strategies for diagnosing and correcting reading difficulties, using a balanced literacy approach based on current and classical research. Field-based work with individual students will be required.

RDG 4051 Process Writing (3)

Prerequisite: must meet Milestone II requirements (provisional admission status)

Exploration of methods, materials, and organizational patterns by which children's writing skills can be developed and improved. Particular emphasis will be placed on the awareness and implementation of the writing process, including improved methods of evaluation of written expression.

RDG 4890 Teaching Reading in the Secondary School (3)

Prerequisite: must meet Milestone II requirements (provisional admission status)

A course designed to prepare teachers in teaching developmental, corrective, and remedial reading on the secondary school (English classroom) level.

SCIENCE (SCI)

These classes are designed for Integrative Studies majors.

SCI 4020 Teaching Science I: K-6 (4)

Prerequisite: must meet Milestone II requirements (provisional admission status)

Emphasizes basic concepts of life and physical sciences. Classes will include lecture, lab, and field experiences.

SCI 4030 Teaching Science II: K-6 (4)

Prerequisite: must meet Milestone II requirements (provisional admission status)

Basic concepts of life and physical science; concentration on physical science conceptual schemes for elementary and middle school; integrated laboratory activities; and integration of science/technology/ society relationships.

SOCIAL WORK (SW)**SW 2110 Introduction to Social Work (3)**

Definition of social work, the social work role, and social work outcome for the individual, group, organization, community, and institution in society. Introduction to and exploration of the generalist framework, problem-solving model, values, diversity, and their development in the 20th century as defined by critical thinkers in the profession.

384 Social Work (SW)

SW 3400 Generalist Social Work Practice (4)

Prerequisite or Concurrent enrollment: SW 3420

Exploration of each phase of the generalist framework from a strengths-oriented, ecological perspective, with emphasis on core practice skills and skill development for carrying out entry-level, direct generalist practice. A grade of "C" or higher is required in this course in order to take SW 3620 or SW 3630. This is a web-enhanced course.

SW 3410 Values, Ethics, and Diversity (3)

Hybrid course emphasizes developing heightened awareness of personal, professional, and societal values that inform decisions. It focuses on a process for ethical decision making, particularly in handling ethical dilemmas. Additionally, it explores the nature of cultural competence and diversity sensitivity.

SW 3420 Human Behavior in the Social Environment (3)

Prerequisite: SW 2110 or permission of instructor

Ecological and social systems theory for integrating concepts and knowledge about human behavior through the entire life span, behavioral science at the individual, family, group, organizational, community, and societal levels. Content on race, gender, and sexual orientation.

SW 3430 Elements of Rural Practice (3)

Examination of the distinctive nature of rural, generalist practice, historical development, special skills, knowledge, attitudes, and values which are particularly relevant for practice in nonurban settings, as well as current issues facing rural practitioners.

SW 3440 Crisis Intervention (3)

Prerequisite: SW 2110 or permission of instructor

Exploration of crisis intervention models, processes, strategies, and skills with particular attention to HIV/AIDS, suicide, sexual assault, and family violence. This is a web-based course.

SW 3450 Human Behavior in the Macro Social Environment (3)

Prerequisite: SW 3400

Applying the systems framework for creating and organizing knowledge of human behavior and the social environment on the macro-scale. Exploration of the family, the group, the organization, and the community; investigation of societal dynamics surrounding ethnic, oppressed minority, and gay and lesbian communities; the connection among the biological, economic, political, social, and ethical systems; and the generalist social work problem solving model.

SW 3460 Community Mental Health: Policy and Practice (3)

Prerequisite: SW 2110 or permission of instructor

Survey of current social work methods for working with the severe and persistently mentally ill, incorporating an explanation of the DSM IV and the diagnostic process. Exploration of the consumer movement and its impact on services and treatment methods, as well as a focus on advocacy for specific populations such as the homeless, alcohol and drug dependent, women, gays and lesbians, people of color, and other oppressed groups in their struggle for adequate treatment. Review of the history of work with the "insane," including the development of legal rights and precedents, and a survey of current societal biases that affect the development of a program for insuring mental health for all in society.

SW 3470 Techniques of Social Work for Groups (3)

Prerequisite: SW 2110 or permission of instructor

A hands-on experience in leading groups for people who are faced with the need for rehabilitation, skills-training, and emotional development based on social work methods.

Exploration of the ways in which people behave in groups, think about groups, and achieve life satisfaction through participating in a group. Investigation of the different group leader styles appropriate for oppressed groups such as women, gays and lesbians, people of color, and the mentally ill.

SW 3480 Living with HIV (3)

Explores psychosocial issues related to providing care to persons with HIV/AIDS. Includes basic knowledge for assessment and intervention including assessing risk behavior, risk reduction, resource linkage, and appropriate skills for serving the vulnerable client. This is a web-based course.

SW 3490 Social Work and Aging (3)

This course offers an empowerment-oriented approach to social work practice with the elderly. It explores problems such as health, mental health, and financial and housing needs for this at risk group. The roles and responsibilities of the SW practitioner are clearly identified.

SW 3620 Micro Social Work Practice (3)

Prerequisite: a grade of "C" or better in SW 3400

Exploration of a systematic-eclectic framework for integrating a variety of theoretical perspectives for entry-level, direct generalist practice with individuals, families, and small groups. Includes selected theoretical models of social casework, family treatment, empowerment, social group work, and crisis intervention, as well as the ecosystems perspective. A minimum grade of "C" is required in this course. This is a web-enhanced course.

SW 3630 Macro Social Work Practice (3)

Prerequisite: a grade of "C" or better in SW 3400

Exploration of methods of social work for working with women and oppressed communities such as gays and lesbians and people of color through group work, advocacy, community organization, and community development. Students learn how to apply a macro-practice method in order to solve a macro-practice problem which they identify in a real life setting. Students are guided through an out-of-class experience in which they interview members of a community, define and analyze a problem, explore possible solutions, and then propose a specific macro-practice solution. A minimum grade of "C" is required for the course.

SW 3680 Child Welfare I (3)

Prerequisite: SW 2110

This course is designed to instill knowledge and commitment to the principles of practice in the Tennessee Public Child Welfare arena. Study content specifically provides information on the characteristics of the populations served and social issues addressed by the Tennessee Department of Children's Services (DCS).

386 Social Work (SW)

SW 3700 Child Welfare II (3)

Prerequisite: SW 3680

This is the second course in the Child Welfare Certification Program which develops the skills and treatment interventions related to social work with abused/neglected children and their families. Students will have several opportunities to develop their own skills through a variety of teaching methods.

SW 3710 School Social Work (3)

Prerequisites: SW 2110, 3400

Overview of significant issues children and adolescents bring to school. Offers tools and strategies for understanding and working within the constraints of the school environment. Covers treatment strategies that enable social workers to assist children and adolescents who have issues related to violence and trauma, parental absence, alcohol and drug abuse as well as death and loss.

SW 3770 Research Methods (3)

Prerequisites: SW 3400 or permission of instructor

Exploration of the scientific method through research design, hypothesis testing, and data analysis. In a hands-on process, the student is guided through formulating a research question, collecting data to answer the question, and analyzing the data for its scientific importance and its importance for social work. The importance of research for providing a knowledge base for the solution of social problems affecting oppressed groups such as women, gays and lesbians, people of color is emphasized in addition to the emphasis on values and ethics required for work with human subjects.

SW 4020 Human Sexuality (3)

Designed to prepare social workers and other professionals whose careers involve working with people having problems of human sexuality, and to increase students' awareness, factual knowledge, and understanding of human sexuality. Involves explicit films and topics some students may find offensive.

SW 4030 Child and Adolescent Mental Health

This class prepares social work students to understand the children's mental health system. Any social worker providing services to children will need to be familiar with psychiatric terminology, diagnosis, medication, and the interventions provided to assist children with mental health needs.

SW 4035 Social Work with Children and Families (3)

This class explores the range of social work practice settings that help children and their families, and child and family assessment. It looks at a range of problems affecting children and their families, and specific intervention techniques to help.

SW 4040 Social Work and Family Violence (3)

This class explores the range of violence affecting families (e.g. child maltreatment, intimate partner violence, elder abuse) and prepares students to understand how violence affects families and how to intervene in families where abuse has occurred.

SW 4400 Seminar for Field Instruction (1)

Concurrent Enrollment: 2110, 3410, 3420, 3450, 3770, 4430, 4440; *must earn a minimum grade of "C" in SW 3400, SW 3620, SW 3630*

Overview of approved social service agencies, preparation for interviews in selected sites, and facilitates the development of a student placement profile, which includes application to the field practicum, resume, agency profile, and evidence of insurance coverage as required by CSWE. Students also meet individually with the field coordinator twice during the course. Grading on a pass/fail basis.

SW 4410 Field Instruction (12)

Prerequisites: SW 2110, 3410, 3420, 3450, 3770, 4400, 4430, 4440; *must earn a minimum grade of "C" in SW 3400, 3620, and 3630*

Educationally supervised practice activities with individuals, families, groups, organizations, and communities in an approved social service agency for thirty-two (32) hours per week over the course of the semester. Grading on a pass/fail basis.

SW 4411 Field Instruction Concurrent Seminar (3)

Corequisite: SW 4410

Integrative learning application of theoretical knowledge and social values, and skill development through direct practice activities in an approved social service agency. Includes processing learning experiences in the field agency and connecting them with theoretical perspectives on social work practice. This is a web-based course.

SW 4430 Social Policy (3)

Exploration of the process by which problems and issues in society are turned into rules, regulations, and laws. Focus on the transition from private troubles to public issues in such areas as divorce, mental illness, welfare, and child abuse, and the response of society to the needs of oppressed groups such as single parents, the elderly, women, gays and lesbians, and people of color. The role of social work and social workers in society is investigated, as well as the history of social welfare in the United States and the role of institutions in the delivery of services to people in need.

SW 4440 Law and Social Work (3)

The course explores the legal environment of social work, the legal system, and legal concepts. Actual cases will be briefed by students. The course is taught in a seminar format similar to a law school class, and is particularly useful for pre-law students.

SW 4720 Senior Seminar (3)

Prerequisites: social work major, SW 4410 or concurrent with SW 4410

The course is designed to be the "capstone" or final synthesis and integration course for the social work major. Self-directed, independent learning is a cornerstone of the course. Prior learning recognition, assessment, and integration through construction and evaluation of a social work portfolio is the major dynamic of the course. A minimum grade of "C" is required. This is a web-based course.

SW 4900 Selected Topics in Social Work (3)

Specially selected topics of current or continuing social significance, from social work perspectives.

388 Social Work (SW)

SW 499A, B, C Directed Individual Study (1, 2, 3)

Prerequisites: junior standing and permission of supervising faculty required

Specialized individual study under the direction of a faculty member.

SOCIOLOGY (SOC)

SOC 2010 Introduction to Sociology (3)

Introduction to sociology as a scientific discipline. Subject matter includes sociological concepts, sociological processes, social structure, social organization, and social institutions, including family, education, politics, religion, and economy.

SOC 2050 Social Problems (3)

A survey of social subjects including family, city, public health, alcoholism, drug dependency, racial and gender inequality, work, crime, and violence.

SOC 2500 Cultural Anthropology (3)

(course renumbered from SOC 3500)

The theories and elements of culture are identified and applied to a variety of human societies. Emphasizes premodern society.

SOC 3000 Family Theory (3)

The study of the major theoretical models about families.

SOC 3010 Marriage and the Family (3)

Analysis of the family institution, its structure and function, and the dynamics of social change in family interaction and organization. The process of marriage examined includes dating, courtship, mate selection, engagement, and marriage. Attention to changes currently affecting the American family.

SOC 3020 African American Families in the United States (3)

An analysis of historical and contemporary social science literature regarding black family structure and function within the social and political context of the United States.

SOC 3030 Families in Crisis (3)

Theoretical and practical examination of the nature and course of family crisis and principles used in intervention strategies.

SOC 3040 Urban Sociology (3)

The history and development of cities, their relation to surrounding and rural areas, and the role of cities in the national economy and society. Attention will be given to recent and anticipated changes and accompanying problems.

SOC 3050 Race Relations and Minority Peoples (3)

Minority groups and race relations in the United States. Special attention is devoted to such groups as Blacks, Indians, Asians, and religious minorities.

SOC 3060 Contemporary Issues in the Family (3)

In-depth examination of contemporary issues that affect family functions and relations.

SOC 3070 Families Across Cultures (3)

Cross-cultural, multicultural, and historical influences on family functions, structures, and behaviors; focusing on the recognition and understanding of cultural similarities and differences.

SOC 3080 Gender and Society (3)

Gender and sexuality in American society and cross-culturally, with consideration to the role of gender in structuring identity, male/female interaction, and constraints on expanding opportunities.

SOC 3100 Popular Culture (3)

This course examines the impact of the values, beliefs, and actions promoted by popular culture (ex. movies, television, magazines, music, and fashion) on our daily lives. The course focuses on how popular culture is produced and consumed by society. The course also discusses the globalization of popular culture.

SOC 3140 Sociology of Deviant Behavior (3)

Contemporary theories of deviant behavior and major types of deviance in American society. The relationship between norms, deviance, and forms of social control; and the relationship between deviance, social disorder, and social change.

SOC 3150 Social Psychology of Everyday Life (3)

How principles of social psychology affect everyday human interaction. Covers such topics as mass media, leadership, personal attraction, communication, and the impact of the social environment on personality.

SOC 3200 Crime and Delinquency (3)

Theories of deviance as they relate to the law and methods of treatment; emphasis on causes, types, and corrective measures in criminology.

SOC 3300 Social Inequality (3)

Class analysis of the United States with focus on social and economic inequalities. Attention is given to such concepts as power, prestige, social opportunity, and dependency.

SOC 3400 Sociology of Religion (3)

Religion as a social institution with an analysis of the functions of religion for society and a comparison of major religious groups in America.

SOC 3500 Sport and Society (3)

This course encourages students to think critically about the organization of sports and how sports relate to their social lives. It critically analyzes gender, racial, socioeconomic, and body image issues relating to sport, and the functions of sport related to existing cultural ideologies.

SOC 3600 Sociology of Later Maturity and Old Age (3)

The social implications of an aging population; social and personal adjustments of the aging process; and resources for coping with roles and statuses of old age.

390 Sociology (SOC)

SOC 3700 Medical Sociology (3)

Sociocultural factors which influence the cause, recognition, definition, and treatment of illness: the development, organization, and role of the medical profession as a social institution.

SOC 3750 Population and Society (3)

Growth and change in the composition and distribution of population; causes and consequences of the “population explosion”; and other population problems in the world and the United States. Interrelationships of population variables (fertility, mortality, and migration) and social, economic, political, and ecological factors.

SOC 3760 Introduction to Social Research (3)

Basic techniques in social research with emphasis on the collection, analysis, and interpretation of quantitative data.

SOC 3770 Social Statistics (3)

This course is designed to provide an introduction to statistics in the social sciences. Students will learn how to perform statistical calculations by hand, and how to execute and interpret basic SPSS programs.

SOC 3800 Women and Social Change (3)

An analysis of the implications of social change for the status of women, and an evaluation of the women’s movement and other institutions as a force for social change.

SOC 3810 Collective Behavior and Social Movements (3)

The study of social movements and collective behavior as they contribute to social change.

SOC 4080 Classical Sociological Theory (3)

Major contributions to social theory during the 19th and early 20th centuries. Theorists include Comte, Marx, Weber, Pareto, Durkheim, and others. Major emphasis on the intellectual traditions which gave rise to sociology as a separate discipline.

SOC 4090 Modern Sociological Theory (3)

Development of leading “schools” of sociological theory: Functionalism, Conflict, Symbolic Interactionism, Exchange, Ethnomethodology with emphasis on theory in American sociology since World War II.

SOC 4300 Organizational Behavior (3)

Examines the development and role of organizations in contemporary society, focusing on explanations of organizational structure, process, and change.

SOC 4400 Environmental Sociology (3)

A comprehensive overview of the historical precursors to and the emergence of the field of environmental sociology. Topics include interactions between the physical environmental and the social world; perspectives in environmental sociology; environmental concerns, health, movements, and risks; political economy of environmental problems; environmental law and policy; environmental justice.

SOC 4410 Environmental Policy (3)

This course discusses public policy as it relates to the natural environment. The course focuses on how power/politics, science, and social values influence decisions about the natural environment. The course discusses environmental policy at the local, state, regional, national, and international levels.

SOC 4420 Environmental Justice (3)

A study of the emergence and development of environmental justice. An understanding of the interaction between the human environment and inequality among different human groups, as defined by race, class, and gender will be addressed. Topics include environmental racism; the environmental justice movement; environmental attitudes, theories, and health; and race, class, and gender disparities.

SOC 480A, B Sociology Internship (3, 6)

This course helps students to hone their ability to use the sociological perspective in an organizational setting while gaining career experience with an internship organization.

SOC 4900 Selected Topics in Sociology (3)

Specially selected topics of current or continuing social significance from sociological perspectives. Subjects to be announced when course is scheduled. Seminar, with regular class meetings.

SOC 499A, B, C Directed Individual Study (1, 2, 3)

Specialized individual study under the direction of a faculty member. Junior standing and permission of supervising faculty are required.

SPANISH (SPAN)**SPAN 1010, 1020 Elementary Spanish (4 each)**

101A-101B; 102A-102B (2 each): SPAN 101A and SPAN 101B are equivalent to SPAN 1010; SPAN 102A and SPAN 102B are equivalent to SPAN 1020.

Prerequisite for SPAN 1020: SPAN 1010

Extensive practice in reading, writing, speaking, and listening.

SPAN 2010, 2020 Intermediate Spanish (3 each)

Prerequisite for SPAN 2010: SPAN 1020 or equivalent; prerequisite for SPAN 2020: SPAN 2010 or equivalent

A comprehensive review of Spanish along with extensive reading, close textual examination, and discussion of representative works of Spanish literature.

SPAN 2100 Basic Survival Spanish Conversation (3)

Prerequisite: second-year proficiency in Spanish

Designed to give the student skills in conversational Spanish needed for effective communication.

SPAN 3040 Study Abroad Program in Spanish: Spain and Spanish America (6-8)

A total immersion program in Spanish and other disciplines in a Spanish-speaking country.

392 Spanish (SPAN)

SPAN 304A Study Abroad - Mexico (6-8)

Prerequisite: basic knowledge of Spanish or by permission of instructor

A study program designed to provide students with a total Spanish-speaking environment which will allow a broadening of knowledge and appreciation of the Spanish language and culture. Not applicable toward major. May be repeated for credit.

SPAN 304B Study Abroad - Spain (6-8)

Prerequisite: basic knowledge of Spanish or by permission of instructor

A study program designed to provide students with a total Spanish-speaking environment which will allow a broadening of knowledge and appreciation of the Spanish language and culture. Not applicable toward major. May be repeated for credit.

SPAN 3210 Advanced Composition in Spanish (3)

Prerequisite: SPAN 2020 or permission of instructor

Free composition on assigned topics and translations to and from Spanish, from a variety of authors and topics, to develop fluency and correctness in writing Spanish.

SPAN 3220 Phonetics and Conversation in Spanish (3)

Prerequisite: SPAN 2020 or permission of instructor

A minimum of theory with extensive application in corrective phonetics to assure a high level of accuracy in Spanish pronunciation. Concentrated practice in oral command of Spanish. This course affords the student opportunities to discuss in Spanish assigned topics in order to develop confidence and accuracy in oral expression.

SPAN 3410 Business Spanish (3)

Prerequisite: SPAN 2020 or third year proficiency

Vocabulary and concepts in Spain and Spanish-American business.

SPAN 3420 Court Interpreting and Translating in Spanish (3)

Prerequisite: SPAN 2020 or third year proficiency in Spanish

Instruction in sight, simultaneous, and sequential interpreting and translating skills in preparation for possible certification by the Supreme Court of Tennessee. Vocabulary and concepts, in Spanish, used in the legal profession.

SPAN 3510 Spanish Civilization I (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

The culture and civilization of Spain from its origin to the 18th Century.

SPAN 3520 Spanish Civilization II (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

The culture and civilization of Spain from the 18th Century to the present.

SPAN 3610 Spanish-American Civilization I (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

The culture and civilization of Spanish-America from its origin to 1810.

SPAN 3620 Spanish-American Civilization II (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

The culture and civilization of Spanish-America from 1810 to present.

SPAN 3400 Special Topics: Language (3)

Prerequisite: permission of instructor

Instruction and guidance in circumstantial Spanish: health care, police emergency, translators, religious crises, technical problems, etc.

SPAN 4100 Special Topics: Literature (3)

Prerequisite: permission of instructor

Individual projects, selected topics in authors or periods.

SPAN 4110, 4120 Independent Study in Spanish (3 each)

Students study independently in Spanish under instructor's guidance. Studies are planned to satisfy special individual needs and interests.

SPAN 4510 Survey of Spanish Peninsular Literature I (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

Peninsular literature from its origin to the 18th century.

SPAN 4520 Survey of Spanish Peninsular Literature II (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

Peninsular literature of the 19th and 20th centuries.

SPAN 4610 Survey of Spanish American Literature I (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

Pre-Columbian Spanish-American literature to 1810.

SPAN 4620 Survey of Spanish-American Literature II (3)

Prerequisite: third-year proficiency in Spanish or permission of instructor

Spanish-American literature from 1810 to the present.

SPECIAL EDUCATION (SPED)**SPED 3000 Introduction to Special Education (3)**

Prerequisite: must meet Milestone I requirements (candidacy status)

Identification of handicapping conditions, programs for educating the disabled, and public laws specifying responsibilities of school personnel.

SPED 3100 Early Childhood Special Education (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Identification of handicapping conditions, programs, and services for educating young children with disabilities (birth-five years), and public laws specifying responsibilities of programs/school personnel. A field experience is required (five hours).

SPED 3300 Characteristics of Students with Mild/Moderate Disabilities (3)

Prerequisite: must meet Milestone I requirements (candidacy status)

Develop an awareness of the educational needs and goals of a person with mild/moderate disabilities. The physical, emotional, and psychological characteristics will be stressed. Lecture/discussion and 15 hours of field-based experiences.

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SPED 3330 Characteristics of Students with Severe Disabilities (3)

Prerequisite: must meet Milestone I requirements (candidacy status)

Developing and understanding of the physical, psychological, and emotional characteristics of the severely disabled. Personal and social needs will be stressed. Fifteen hours of field experience required.

SPED 3340 Developing Consultative Skills: Parents and Professionals (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Communication skills needed in working with parents and professionals regarding short- and long-range planning for the disabled individual.

SPED 3350 Diagnostic Assessment of Exceptional Students (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Techniques used to evaluate a variety of disabling conditions, on an individual basis, in special education classrooms. The student will be required to administer an array of evaluative instruments to special children in public school classrooms.

SPED 3360 Characteristics of Gifted Education (3)

Prerequisites: must meet Milestone I requirements (candidacy status), SPED 3000

This course is designed to acquaint students with the tenets of gifted education. The focus will be on characteristics of gifted learners, the history of the field, assessment practices, and the need for differentiated instruction.

SPED 4330 Behavior Management for Exceptional Students (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Techniques of managing classroom and other behaviors at all levels and types of exceptionality.

SPED 4340 Effective Inclusion Strategies (3)

Prerequisites: must meet Milestone II requirements (candidacy status), SPED 3000.

Provide instructional strategies and techniques for teachers of the mild and moderately disabled.

SPED 4350 Teaching Students with Severe Disabilities (3)

Prerequisites: must meet Milestone II requirements (provisional admission status)

Provide instructional strategies and procedures for teachers of severely/multiple disabled. Emphasis will also be directed toward assessment techniques, use of commercial materials, and use of technology. Students will be assigned 15 hours of field experiences to facilitate application of classroom instruction.

SPED 4370 Career/Vocational Education for Exceptional Students (3)

Prerequisite: must meet Milestone I requirements (candidacy status)

Familiarize the student with techniques for determining job availability for disabled students, employer attitudes, necessary pre-job skills, and an awareness of community employment opportunities and other transitions into post school life.

SPED 4390 Assistive Technology in Special Education (3)

Prerequisite: must meet Milestone I requirements (candidacy status)

Familiarize students with the special needs of students that can be met by the use of assistive technology and equipment that is available.

THEATRE (THEA)**THEA 1030 Introduction to Theatre (3) - (online and on campus)**

(course renumbered from THEA 1000)

Create an awareness of the nature of theatrical art and its place in human culture. Incorporates study of history, theory, and practice of theatrical art. This is not a performance course.

THEA 1300 Acting I (3)

An analysis of the various styles and techniques of acting. Emphasis will be placed on performance through the use of improvisation, movement, and voice.

THEA 1301 Beginning Acting for Non-Majors (3)

This course is designed for non-theatre majors with an analysis of the various styles and techniques of acting. Emphasis will be placed on performance improvement through the use of improvisation, movement, and voice.

THEA 1500 Voice for the Actor (3)

Prerequisite: THEA 1300 or permission of instructor

Practical work on the fundamentals of vocal production for the stage. Topics include body alignment, breath support, articulation, and Standard American Stage Speech using the International Phonetic Alphabet.

THEA 1600 Stagecraft I (3)

Principles and techniques used in construction, rigging, handling, and maintenance of stage scenery, soft good construction and manipulation, and scenic painting. Students will participate in a combination of classroom work and laboratory work, consisting of practical application of classroom learned techniques in the scene and costume shop and on production crews. A minimum of 40 hours in the shop is required.

THEA 1610 Stagecraft II (3)

Prerequisite: THEA 1600

Principles and techniques used in steel construction, electrics, sound, properties, and plastics. Students enrolled in this course will participate in a combination of classroom work and laboratory work, the latter consisting of practical application of classroom learned techniques in the scene shop, costume shop, light shop, and on production crews. A minimum of 40 hours in the shop is required.

THEA 2000 American Theatre (3) - (online and on campus)

History of American theatre with emphasis on changing systems of value as reflected by the drama.

THEA 2010 Oral Interpretation of Literature (3)

Study of literature through the medium of performance. Students analyze and perform selected literature. Most performances take place in class, but a public performance requirement is occasionally added.

THEA 2300 Acting II (3)

Prerequisites: THEA 1300, 1030

Analysis of styles and techniques in acting. Improvisation, movement, and voice will be developed as a means of character development.

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THEA 2350 Stage Movement (3)

This course introduces principles and techniques of theatrical stage movement. It is designed to help actors and dancers make their bodies more flexible and efficient instruments of expression.

THEA 3010 Theatre: Chronicle and Concept I (3)

Prerequisites: THEA 1030, 2000

Examines history and theory of theatrical art of the Classical Era, Middle Ages, and Renaissance in Western Europe. Emphasizes theatrical space, production, and performance. Drama is considered as a plan for production rather than as literature.

THEA 3020 Theatre: Chronicle and Concept II (3)

Prerequisite: THEA 3020

Examines history and theory of theatrical art in the 18th, 19th, and 20th centuries in Western Europe. Emphasizes theatrical space, production, and performance. Drama is considered as a plan for production rather than as literature.

THEA 303A, B Summer Theatre (3 each)

Prerequisite: permission of instructor

Intensive work in a summer theatre production, in which the student functions as a performer, technician, designer, or in a combination of duties.

THEA 3080 International Studies in Theatre I (3)

Prerequisite: junior standing or approval of instructor

Exposes students to the history, development, social relevance, and artistry of theatre abroad. Students will actively examine current trends in theatre within the confines of an international component. This area of study will culminate with an international experience. Students are expected to enroll in THEA 3090, International Studies in Theatre II, the following semester.

THEA 3090 International Studies in Theatre II (3)

Prerequisites: junior standing and THEA 3080 or approval of instructor

This course is the culmination of THEA 3080. The students will experience international theatre first hand within the confines of a studies abroad program.

THEA 3300 Acting III (3)

Prerequisite: THEA 1300

For students who intend to pursue a career in theatre on the educational or commercial level, to refine skills as well as to develop the capacity to teach the art of acting to others.

THEA 3330 Musical Theatre History (3)

A survey course of the history of musical theatre from operetta to present day, with an emphasis on select shows and significant contributors to the genre.

THEA 3350 Musical Theatre Workshop (3)

Corequisite: THEA 335L or two semesters of vocal study (one semester may be concurrent)

A performance-oriented study of musical theatre, composers, and styles to improve students' audition and performance skills.

THEA 335L Musical Theatre Workshop Lab (1)

Corequisite: THEA 3350

Individual instruction in techniques using the body and voice to prepare the student for opportunities in musical theatre performance.

THEA 3400 Directing (3)

Prerequisites: THEA 1030, 1300, 1600, 2300, and junior status

The theories, problems, and techniques of stage direction. Each student is required to produce and direct the performance of a theatrical event, selected with the advice and consent of the instructor.

THEA 3450 Creative Drama for Children (3)

Designed to demonstrate how theatre may be used as both means and end to teach the elementary school child. Included will be theatre projects, group and single, involving puppetry and live theatre.

THEA 3500 Stage Dialects (3)

Prerequisites: THEA 1500 or permission of instructor

Training in the use of region-specific dialects common in theatrical performance. Topics include IPA transcription, sound substitutions, and resonant focus.

THEA 3700 Scenic Design (3)

Prerequisites: THEA 1030, 1600

Exposes the student to theatre design in the area of Scenery. Emphasis placed on script analysis and the implementation of various design elements. Students will explore working in a collaborative atmosphere with others on the production team.

THEA 380A-H Stagecraft Practicum (2)

Supervised work on the plays produced by the department or other departmental approved productions. A minimum of 60 clock hours shall be required for academic credit. Only one (1) course per term. This course cannot be substituted for required courses or electives in the concentration. Grading on a pass/fail basis.

THEA 388A-H Performance Practicum (2)

Supervised acting in plays produced and sponsored by the department. A minimum of 60 clock hours shall be required for academic credit. Only one (1) course per term. This course cannot be substituted for required courses or electives in the concentration. Grading on a pass/fail basis.

THEA 3890 Costume Design (3)

This course will explore all aspects of theatrical costuming, from character analysis through design concept to realization. The student will develop skills in basic costume construction, as well as techniques such as draping, flat-patterning, and sewing both by hand and machine.

THEA 4000 Makeup Design (3)

This is a hands-on course that explores design and application techniques of two and three dimensional theatrical makeup.

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THEA 420A, B, C Independent Research (1 each)

Prerequisites: junior or senior standing and permission of instructor

Opportunity for directed scholarly research in an area of special interest to the student. Enrollment accepted only after professor has approved a written project proposal from the student.

THEA 4300 Lighting Design (3)

Prerequisite: THEA 1600

Exposes the student to theatre design in the area of lighting. Emphasis placed on script analysis and the implementation of various design elements. Students will explore working in a collaborative atmosphere with given scenic and costume designs.

THEA 4400 Advanced Scenography (3)

Prerequisites: THEA 1600, 3700, and 4300 or 3890

Exposes the student to the computerized world of theatrical design. Allows the student to explore scenic, lighting, and costume design programs. Emphasis will be placed on both previously designed pieces as well as new designs. This is a hands-on, seminar-oriented class.

THEA 4500 The Business of Theatre (3)

Prerequisites: THEA 1030 and a basic knowledge of computer technology

Covers basic business and managerial skills related to theatre, with emphasis on amateur and educational companies. Topics include development of budgets and business office procedures, box office and house management, and computer software applications and techniques.

THEA 4550 Roy Acuff Chair Seminar (4)

Prerequisites: THEA 1600, 1300 or may be taken simultaneously with the approval of Theatre Coordinator and the Roy Acuff Chair recipient

Offered once every four years; allows the student to take a class with a theatre practitioner of national/ international reputation. The theatre artist selected as the Roy Acuff Chair recipient might be an actor, director, designer, playwright, and/or screenwriter. The student is exposed to the realistic demands of his/her chosen area in the field of professional theatre.

THEA 460A, B Special Topics in Technical Theatre (3 each)

Prerequisites: THEA 1030, 1600 or permission of instructor

460A: Examines the theory and practice of stage management. Coursework includes an examination of historical and contemporary practice through research and application.

460B: Examines the theory and practice of sound and property construction, as well as the acquisition and management of inventories. Emphasis is placed upon historical research and laboratory exercises.

THEA 4650 Direction and Performance for the Camera (3)

Prerequisites: junior standing and approval of instructor(s)

Designed to provide interaction between students in broadcast media and theatre. Through lecture, exercise, scene work, and technology, students will be introduced to the special skills necessary to produce and act in film and TV. Rotation of roles of technician, director, and performer to insure an understanding of the process behind and in front of the camera.

THEA 4700 Topics in Women's Theatre (3)

Examines the theory and practice of special topics in women's theatre. Special topics include the works of Eve Ensler, Caryl Churchill, Maria Irene Fornes, Beth Henley, Marsha Norman, and others.

THEA 4800 Theatre Practicum (3)

Prerequisites: THEA 3700 and permission of instructor

The student will undertake, under close supervision of the instructor, one major aspect of a production selected in conference with the departmental faculty.

THEA 4900 Playwriting (3) (cross listed with ENGL 4900)

Designed to give the student opportunity for written expression in the dramatic form. Play structure will be studied and practically applied.

THEA 4950 Advanced Playwriting (3) (cross listed with ENGL 4950)

Prerequisite: THEA 1030 or ENGL 4900 or THEA 4900, and sophomore standing or higher

Revising plays and one-act scripts for stage performance.

WOMEN'S STUDIES (WS)**WS 2050 Women and Culture: Introduction to Women's Studies (3)**

Prerequisite: ENGL 1020

An introduction to fundamental principles of women's studies, especially the cultural roles, depictions, and experiences of women, past and present; the cultural construction of gender; and the impact of feminist movements upon women's lives. A multi-cultural perspective is provided.

WS 300A, B, C Selected Topics in Women's Studies (3 each)

Examination of a selected topic relevant to issues of women or gender, offered on a one-time basis.

WS 3050 Women in the Arts (3)

An interdisciplinary, cross-cultural survey of women in the arts. Major emphasis on the visual arts and literature, with attention also to the performing arts. Topics include both the contributions and depictions of women in the arts.

WS 3060 Vagina Monologues (3)

Prerequisite: ENGL 1020

Examines issues addressed in Eve Ensler's script in national and international contexts, including women's sexuality, women's body history, racism, violence against women, women's spirituality, and the perception of lesbianism. A major component of the course is the production of the play as part of the international V-Day movement.

WS 3070 Women and Film (3)

Prerequisite: ENGL 1020, WS 2050

This course will examine women as subjects and objects in film, and women filmmakers. Emphasis will be placed on analyzing films for constructions of gender, race, ethnicity, sexual orientation, and class.

400 Women's Studies (WS)

WS 4010 Capstone Seminar in Women's Studies (3)

Prerequisites: WS 2050 and three hours of WS courses

Students will examine upper-division readings in feminist theory, culminating in a research project and presentation.

School of Technology and Public Management Course Descriptions

Glossary for Course Descriptions

This section lists undergraduate courses offered by the University and available for credit. Courses are listed in alphabetical order. The subject codes for courses are also listed below.

Automotive Technology	AT
Computer Technology and Information Management	CTIM
Construction Technology	CT
Corrections Management	COR
Criminal Justice	CRJ
Culinary Arts	CA
Electronics Technology	ET
Engineering Technology	ENGT
Food Service Technology	FS
Management Technology	MT
Police Science and Administration	LEN
Professional Studies	PTMA
Public Management	PM
Welding Technology	WT

AUTOMOTIVE TECHNOLOGY (AT)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

AT 1050 Basic Automobile Shop Practices (3)

Fundamentals of shop safety, shop procedures, tool use, and automobile servicing. Auto systems and components will be limited to nomenclature and functions as related to proper assembly.

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AT 1240 Fuel Systems (3)

Techniques and procedures for overhaul and service of the fuel systems; diagnosis and testing procedures.

AT 1300 Engine Power Mechanics (3)

The engine as a prime mover and the methods of its utilization. Methods of design and construction of internal combustion engine components as related to gasoline and diesel engines. Operation, care and service, testing and diagnosing functional troubles, and necessary minor repairs and adjustments.

AT 1350 Manual Drive Train and Axles (3)

Principles and functions of automotive power train systems: clutches, standard transmissions, power transfer coupling devices, and differentials. Identification of trouble, servicing, and repairs.

AT 1400 Automotive Braking Systems (3)

Practical job instruction on theory, adjustment, and repair of braking systems. Units studied will be coefficient of friction as related to various materials used for braking purposes, as well as hydraulic, electrical, and air braking systems.

AT 1450 Automotive Electrical Systems (3)

Fundamental principles of electricity as used by the auto technician, electrical components of the automobile, and electrical schematics.

AT 2000 Automotive Suspension, Steering, and Wheel Alignment (3)

Principles and functions of the components of the automotive chassis and steering system. The theory of alignment. Why automobiles set according to specifications act differently. Practical job instruction on diagnosis and repairing of suspension and steering components. Diagnosis and correction of wheel alignment angles.

AT 2250 Engine Rebuilding (3)

Prerequisite: AT 1300 or permission of instructor

The disassembly of the internal combustion engine, taking measurements for the purpose of repairing or replacing damaged components to bring the engine to operating specifications, and reassembly of the engine.

AT 2300 Advanced Automotive Electronics (3)

Prerequisite: AT 1450 or permission of instructor

Theory, construction, testing, and application of electronic devices of the automobile. Analysis of electronic instruments, how they work, what they do, and their limitations to automotive electronics systems diagnosis. Practical problem solving in digital instrumentation, control modules, and other automotive electronic devices.

AT 2350 Automatic Transmissions (3)

Principles and theories of automatic transmissions, including troubleshooting and overhaul procedures of hydraulically operated transmissions, torque converters, and fluid couplings used with automatic transmissions common to the automotive field.

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AT 2400 Auto Air Conditioning, Heating, and Ventilation Systems (3)

Types of air conditioning, heating, and ventilating systems used in the automobile. Problem diagnosis and servicing will be employed.

AT 2550 Computerized and Systems Monitoring (3)

Prerequisite: AT 2300 or permission of instructor

Theory, diagnosis, and repair procedures of computerized engine components used for reduction of automobile emissions, and various electronic monitoring systems for data readout of specialized processes.

AT 2570 ADVANCED ENGINE PERFORMANCE, DIAGNOSIS, AND SERVICE (3)

Prerequisites: AT 1240, 2550

Diagnosis and repair of automotive fuel, emission, and ignition; electronic and computer systems; and use of electronic test equipment.

AT 2590 Advanced Automotive Transmissions (3)

Prerequisite: AT 2350 or permission of advisor

Further instruction in automatic transmissions and transaxles, including principles of operation, troubleshooting, and overhaul procedures on hydraulically operated transmissions and transaxles; torque converters; fluid couplings; and computerized transmission and transaxle system controls.

AT 2600 Production Mechanics (3)

Prerequisites: AT 1400, 2000, 2250, 2350, 2550, 2570, elective or permission of instructor

Line and simulated work on all phases of automobile mechanics.

AT 2630 Introduction to Hybrid Vehicles (3)

Prerequisite: AT 1450, 2300

Introduction to hybrid vehicle propulsion systems. Hybrid vehicle designs, fundamentals of 3-phase permanent magnet and ac induction motor/generator systems. Fundamentals of high voltage battery pack and energy management systems. Introduction to hybrid vehicle systems diagnosis, service, and repair.

AT 2830 Significant Safety Hazards and Concerns (3)

The course is designed to focus on matters associated with health and safety relating to the environment, including air water quality, and sanitization. Areas of concentration include hazardous, and materials, their storage and handling. Additional study includes waste management and cleanup as well as detail study of environmental laws, regulations, and protection of workers involved in activities associated with hazardous materials.

COMPUTER TECHNOLOGY AND INFORMATION MANAGEMENT (CTIM)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

CTIM 2000 Keyboarding (3)

Basic alphanumeric instruction on the computer keyboard. Emphasis will be placed on speed and accuracy. Simple business documents will be introduced.

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CTIM 2010 Document Processing I (3)

Prerequisite: CTIM 2000 or equivalent skills

A continuation of keyboarding skills essential to document processing. Involves processing intermediate level office correspondence/forms/reports.

CTIM 2020 Document Processing II (3)

Prerequisite: CTIM 2010 or equivalent skills

Refinement of keyboarding office production skills using complex forms and documents. Simulated office activities are implemented.

CTIM 2040 Word Processing Concepts and Applications (3)

Prerequisite: CTIM 2020 or equivalent skills

Emphasis is placed on basic word processing concepts and integration with typical office word processing applications.

CTIM 2050 Advanced Word Processing and Desktop Publishing (3)

Prerequisite: CTIM 2040

Produce complex documents using advanced word processing functions and desktop publishing applications.

CTIM 2100 Introduction of Operating Systems (3)

Introduction to the hardware and software of microcomputers; instruction on configuring and troubleshooting of microsystems: Windows instruction.

CTIM 2110 Information Technology Concepts (3)

Computer terminology, professional ethics and social implications of computers.

Introduction to networking concepts, protocols, communication services, e-business applications, network security, and emerging initiatives.

CTIM 2120 Integrated Software Applications (3)

Prerequisites: CTIM 2100 or 2110 or equivalent skills

Integrated software concepts which include word processing, spreadsheets, database management, graphics, and communications.

CTIM 2121 Advanced Integrated Software Applications (3)

Prerequisite: CTIM 2120

Advanced integrated software concepts and applications of word processing, spreadsheets, database management, graphics, and communications for business situations.

CTIM 2130 Spreadsheet Applications (3)

Prerequisite: CTIM 2100 or 2110 or equivalent skills

Basic business applications using spreadsheet software. Create professional looking workbooks using templates; create multiple worksheets; and work with formulas and functions. Case-based, problem-solving approach used.

CTIM 213A Microcomputer Applications: Word Processing (1.5)

Prerequisites: CTIM 2100, 2110 or equivalent skills

Microcomputer-based word processing software, creating, editing, and manipulating documents of varying sophistication.

CTIM 213B Microcomputer Applications: Spreadsheets (1.5)

Prerequisites: CTIM 2100, 2110 or equivalent skills

Microcomputer-based spreadsheet software for business application; spreadsheet documents will be produced for a variety of applications.

CTIM 213C Microcomputer Applications: Database (1.5)

Prerequisites: CTIM 2100, 2110 or equivalent skills

Concepts of database management system using microcomputer database software to apply and validate these concepts.

CTIM 213D Microcomputer Applications: Desktop Publishing (1.5)

Prerequisites: CTIM2100, 2110 or equivalent skills

Desktop publishing concepts and hands-on training in microcomputers, laser printers, and various page composition software packages.

CTIM 213E Microcomputer Applications: Presentation Graphics (1.5)

Prerequisites: CTIM 2100, 2110 or equivalent skills

Software used to design presentation graphics such as business charts, line charts, bar graphs, and organization charts.

CTIM 2140 Database Applications (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Basic business applications using database software. Develop queries, forms, and reports. Case-based, problem-solving approach used.

CTIM 2150 Presentation Graphics Applications (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Software used to design presentation graphics such as business charts, bar graphs, and organization charts; apply complex animation and sound effects; manipulate digital photographs and drawing diagrams and illustrations.

CTIM 2160 Records and Information Management (3)

Equipment and systems used for information storage, transmission, and retrieval. Includes concepts of filing: micrographic; forms design, usage, and control; and evaluation, protection, and destruction of vital records.

CTIM 2170 Web Page Design Applications (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Coverage of essential Web page development topics such as HTML, common Web page elements, hyperlinks, templates, tables, formatting, image maps, thumbnail images, interactive forms, and frames.

CTIM 2180 Visual Basic I (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Introduces the beginning-programming student to building applications in a graphical environment. Basic concepts in methods of object-oriented programming.

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CTIM 2185 Visual Basic II (3)

Prerequisite: CTIM 2180

Advanced concepts in methods of object-oriented programming. Manipulating strings random access files, arrays, sequential access files, and printing.

CTIM 2190 Information Management (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Basic business applications using project management software. Covers tracking progress, sharing information, and closing a project. Case-based, problem-solving approach.

CTIM 2210 Office Systems and Procedures (3)

Office systems emphasizing the interrelationship of people, procedures, and equipment.

CTIM 2300 Business Communications (3)

Prerequisite: ENGL 1010

Principles of effective business communications. Solving business problems through writing business letters, reports, and oral communications.

CTIM 2600 Windows Workstation Management (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Installing, configuring, and maintaining Windows workstations. Understanding users, groups, profiles, and policies. Troubleshooting, disaster recovery, and protection.

CTIM 2610 Windows Server (3)

Prerequisite: CTIM 2600 or permission of instructor

Installing, configuring, and maintaining Windows server. Understanding users, groups, profiles, and policies. Troubleshooting, disaster recovery, and protection. Managing groups, folders, and files.

CTIM 2620 Windows Directory Services (3)

Prerequisite: CTIM 2600 or permission of instructor

Analyzing business requirements, information technology structures, software requirements, hardware, and network requirements. Designing forests, trees, and domains; organizational units, sites, and DNS implementation; and security group and group policy.

CTIM 2630 Networking Infrastructure (3)

Prerequisite: CTIM 2600 or permission of instructor

Analyzing technical requirements, TCP/IP network, IP configuration, and name resolution strategies. Designing a multi-protocol strategy, DFS strategy, a WAN infrastructure, an Internet connectivity strategy for Internet and Intranet services, and a management and implementation strategy for Windows networking.

CTIM 2700 Network Management and Maintenance (3)

Prerequisite: CTIM 2100 or CTIM 2110 or equivalent skills

Introduces hardware and software concepts, troubleshooting fundamentals, multi-media technology, printers, viruses, disaster recovery, and maintenance plans.

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CTIM 2900 Seminar for Professional Secretaries I (3)

Strengthen and update secretarial knowledge in the office, information technology, decision sciences, communications, and office administration areas. Grading on a pass/fail basis.

CTIM 2910 Seminar for Professional Secretaries II (3)

Strengthen and update secretarial knowledge in the management, economics, business law, and accounting/finance areas. Grading on a pass/fail basis.

CTIM 2990 Internship in Computer Technology and Information Management (3)

Professional unpaid work experience in preparation for employment in the computer technology and information management areas. A formal written report documenting experiences, a detailed daily log, and supervisory evaluation is required. Grading on a pass/fail basis.

CTIM 299A, B, C Special Problems in Computer Technology and Information Management (1, 2, 3)

Individual research relating to current problems, issues, and/or technological advancements related to Computer Technology and Information Management. Conducted under the guidance of a faculty member.

CTIM 3130 Advanced Spreadsheet Applications (3)

Prerequisite: CTIM 2130

Advanced business applications using spreadsheet software. Develop customized applications with macros and Visual Basic. Hands-on training to include case studies.

CTIM 3140 Advanced Database Applications (3)

Prerequisite: CTIM 2140

Advanced computerized database applications. This course provides theory and practice in a disciplined approach to problem solving using a database management software in a business environment. Students will create custom reports, develop action queries, and advanced table relationships. Students will be automating tasks with macros, developing application code using Visual Basic, and understanding concepts of managing and securing databases.

CTIM 3350 Office Management and Supervision (3)

Supervisory and management skills, the role of the supervisor, economics of work, supervisor as manager of people, and the office environment. Case studies will be used during the course.

CONSTRUCTION TECHNOLOGY (CT)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

CT 1000 Home Repair and Maintenance (3)

CT 100A, B, C (1 hour each) is equivalent to CT 1000

Acquire the knowledge and skill necessary for home repair and maintenance of plumbing fixtures, electrical devices, and carpentry repair; to include the necessary tools and safety requirements to perform such repair.

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CT 100A Plumbing Home Repair and Maintenance (1)

Acquire the knowledge and skill necessary to perform home plumbing repairs and home maintenance; to include faucet repair, toilets, sinks, and drainage repairs.

CT 100B Electrical Home Repair and Maintenance (1)

Acquire the knowledge and skill necessary to perform home electrical repairs and home maintenance; to include light fixtures, ceiling fans, lamps, switches, plugs, and appliance cords.

CT 100C Carpentry Home Repair and Maintenance (1)

Acquire the knowledge and skill necessary to perform home carpentry repairs and home maintenance; to include walls, ceilings, doors, locking devices, windows, and screens.

CT 1210 Construction Surveying (3)

Theory, principles, and practice of surveying as applied to construction; with special emphasis on including cross-sections, slope stakes, grades, and layout of utilities and buildings; field note procedure; differential and profile leveling; care and use of instruments; taping measuring of angles and directions; and closure and area computations.

CT 1300 Blueprint Reading and Leveling Instruments (3)

Language of blueprints, building codes, zoning, permits, and inspections, which includes builder's level and transit level.

CT 1320 Construction Drawing I (3)

Modern house and small commercial building construction methods, drafting detailed drawings of carpentry and masonry construction. Simple space relation problems are studied strengthening the student's ability to visualize space. Basic house design, site consideration, modular aspects, and drawing a complete set of plans.

CT 1330 Introductory Carpentry (3)

Basic hand tools, power equipment, and materials which relate to the carpentry trade; to include types and usage of different woods and materials used in wood-frame construction.

CT 1400 Systems Controls (3)

Operation of magnetic, temperature, and pressure controls, heating and safety controls, wiring diagrams, and schematics.

CT 1430 Blueprint Reading and Sketching I (3)

Basic blueprint reading, including layout, projection, and dimensioning. Detailed instruction will be given to enable students to be able to make sketches of certain geometric shapes and orthographically project these objects.

CT 1620 Masonry Construction (3)

Masonry trade and tools, preparation and application of mortar, estimation of materials, and laying block and brick.

CT 1680 Applied Electricity (3)

Interpretation of schematics, diagrams, and blueprints applicable to electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installation using appropriate symbols and notes according to the applicable codes.

CT 1820 Introductory Plumbing (3)

Basic hand tools, power equipment, and materials for the plumbing trade. Types and usage of sewer pipe and sewer disposal systems, water mains, and lateral feeds to individual housing units. Pipe cutting, threading of galvanized and black pipe, cutting and joining of PVC and copper pipe, and how to test systems.

CT 2320 Construction Drawing II (3)

Detailed drawings to include framing details, window and door details, stair framing details, and various sectional views of light commercial and residential construction.

CT 2325 Introduction to Computer Aided Drafting for Construction (3)

This course is designed as an introduction to computer aided drafting. Basic fundamentals will be emphasized with the learning of computer assisted commands.

CT 2330 Advanced Carpentry I (3)

Prerequisite: CT 1330 or permission of advisor

Methods of framing, including types of roofs and roofing. Emphasis given to construction safety.

CT 2340 Advanced Carpentry II (3)

Prerequisite: CT 1330 or permission of advisor

Exterior and interior trim, door, and window units, drywall finish, and painting.

CT 2350 Advanced Carpentry III (3)

Prerequisite: CT 1330 or permission of advisor

Art of cabinetry work, wood finishing, and the manufacturing of wood projects. Emphasis given to shop power tool safety.

CT 2430 Blueprint Reading and Sketching II (3)

Prerequisite: CT 1430 or permission of advisor

Continuation of 1430. Applied blueprint reading in the following areas of specialization: carpentry, masonry, plumbing, and electricity. Detailed study of the complex prints in the specialty areas.

CT 2440 General Heating and Air Conditioning I (3)

Principles of heating and air-conditioning systems.

CT 2450 Advanced Heating and Air Conditioning I (3)

Prerequisite: CT 2440 or permission of advisor

Uses and application of electricity in heating and air conditioning in residential and commercial areas; hands-on to cover some 50-60 percent of class work.

CT 2460 Advanced Heating and Air Conditioning II (3)

Prerequisite: CT 2440 or permission of advisor

Types of energy used to produce heating and cooling in conjunction with an up-to-date approach of the basic principles of air conditioning design, including the construction of ducts, flex and galvanized.

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CT 2520 Contracts and Specifications (3)

Comprehensive evaluation of basic construction processes and estimating, with additional emphasis on responsibilities of the contractor, owner, and architect. Discussion of legal aspects of contract performance requirements, bidding practices and procedures, as well as preparation and interpretation of specifications.

CT 2530 General Contracting (3)

An overview of the contracting business focusing on issues facing residential contractors in today's market place. Various areas of construction will be explored and discussed include financial responsibilities, insurance considerations, taxes, advertising, management or employees and general information pertinent to the operation of a construction business. The course will also explore contracts, local governmental agencies, and retirement planning.

CT 2540 Construction Enterprise (3)

Introduces the fundamentals of construction jobsite management and project management in today's work environment. The course will explain the construction manager's role in job-site documentation and record keeping, layout and control, meetings and employee labor relations, safety management, subcontracting, purchasing, project quality management, time and cost factors, and claims and the process of payment.

CT 2620 Advanced Masonry Construction (3)

Prerequisite: CT 1620 or permission of advisor

Brick bonds, building brick and block corners, layout of walls, and building codes. Setting up scaffolding and material.

CT 2630 Advanced Masonry Construction II (3)

Prerequisite: CT 1620 or permission of advisor

Construction of fireplaces, including facing, chimney, block and brick flue, hearth, and brick veneer inside wall.

CT 2650 Concrete Construction (3)

Estimating, excavation, preparing base for slabs on grade, and layout procedures, to include forming, pouring, and finishing concrete.

CT 2680 Electrical Wiring (3)

Prerequisite: CT 1680 or permission of advisor

Residential wiring, calculating and determining the size of service and circuits, and methods and procedures in wiring. Application of the national electrical code and local ordinance requirements for electrical installations in residential and commercial buildings and F.H.A. specifications.

CT 2690 Construction Wiring (3)

Principles and wiring procedures, to include grounding, wiring, flexible, rigid and thin wall conduit, circuits, and multi-family dwellings.

CT 2700 Industrial Wiring and Maintenance (3)

Special requirements for industrial and commercial wiring. Installation methods of electrical equipment from motors to swimming pool fixtures to lighting for display cases.

CT 2820 Advanced Plumbing I (3)

Prerequisite: CT 1820 or permission of advisor

Blueprint reading and understanding, study of water supply systems, codes requirements, proper installation of supply and waste, drainage systems, inspection and testing of the supply and drainage systems, application of the national building codes, local building codes, and requirements and FHA/VA specifications.

CT 2830 Advanced Plumbing II (3)

Prerequisite: CT 2820 or permission of advisor

Design, layout, and installation of 1) a water main system from a subdivision; 2) septic tank, leach field installation; 3) in-line staging pumps and their applications; and 4) sewage system up to waste treatment plant and heavy equipment usage penetrating to above. Possible on-sight checkout of backhoe and trencher in operation.

CT 2850 Traps, Fixtures, and Appliances (3)

Identification of the need and function of the trap; the function of a plumbing fixture and a plumbing appliance.

CT 2900 Internship

A hands-on application of the principles, techniques, and procedures learned during the various courses. A major project will be designed and implemented by the students.

CORRECTIONS MANAGEMENT (COR)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

NOTE: LEN 1010 is a prerequisite for all other COR/LEN courses.

COR 1050 Survey of Institutional Corrections (3)

Trends and developments in all elements of a modern correctional system for the treatment of juvenile and adult offenders.

COR 1060 Criminology (3)

Causes and patterns of criminal and deviant behavior; methods of treatment and prevention.

COR 1070 Community-Based Corrections (3)

Alternatives to incarceration of the criminal; diversion programs, including pretrial intervention; deferred prosecution programs; substitutes for jail; and short-term treatment, including the problems of resocialization and reintegration of the offender into the community.

COR 1090 Constitutional Issues in Law Enforcement (3)

Theoretical underpinnings of the U.S. Constitution; emphasis on the Bill of Rights and the effect on the present-day criminal justice system. Historical and contemporary interpretation and legal precedent examined through the development of legal briefs and case studies.

COR 2060 Correctional Management (3)

Roles correctional administrators play, the problems they encounter, and the theoretical and practical skills needed for successful performance of their duties; alternatives to traditional procedures, such as community-based programs versus correctional institutions.

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COR 2070 Probation, Pardons, and Parole (3)

Historical development, philosophies, and standards related to the process of probation, pardon, and parole; conditions under which they are granted; an evaluation of their efficiency; and alternative dispositions.

COR 2090 Seminar in Corrections (3)

Prerequisite: permission of advisor

Seminar of selected topics of current interest and controversy in corrections. Two field trips will be made to evaluate correctional institutions. A contemporary corrections problem will be identified with written attendant solutions resulting from an intensive research effort.

CRIMINAL JUSTICE (CRJ)

CRJ 1010 Introduction to Criminal Justice (3)

This course is a basic study of all components of the criminal justice system in the United States. Topics include concepts of law and crime; the criminal justice process; overview of criminal justice agencies; current criminal justice issues; and interactions and conflicts between criminal justice agencies.

CRJ 3000 Constitutional Law (3)

This course is an intense analysis of federal and state court decisions that interpret the United States Constitution as to the authority and process of criminal justice agencies. Topics include an historical overview; the Bill of Rights; trial and punishment; civil remedies and constitutional conduct; and constitutional and civil rights in the workplace.

CRJ 3010 Criminal Law (3)

This course is a generic study of criminal law in the United States and does not cover any specific federal or state law. Topics include principles of criminal law; principles of criminal liability; complicity; inchoate crimes; defenses; justifications; excuses; crimes against persons; crimes against property; and crimes against public order.

CRJ 3020 Criminal Evidence and Procedure (3)

This course is an in-depth examination of criminal evidence rules in the United States. Topics include trial procedures; examination of witnesses; real/physical evidence; circumstantial evidence; hearsay evidence and exceptions; privileged communications; declarations against interests; and judicial notice.

CRJ 3030 Terrorism and the Law (3)

This course is an in-depth analysis of international, federal, and state law as they pertain to the study of terrorism. Topics include search and seizure issues; privacy laws; the Patriot Act; constitutional issues in reference to terrorism investigation/prevention; and criminal procedure.

CRJ 3040 International Law (3)

This course is an in-depth analysis of litigation of international laws. Topics include sovereign's immunity; international treaties; international courts, claims, and adjudications; norms for use of force; norms for control of terrorism; War Powers Act; National Defense Authorization Act; and international organizations.

CRJ 3100 Network Security (3)

This course offers an intense examination of network security defense techniques and countermeasures. Defense fundamentals are explained in great detail. Topics include network defense techniques; cybercrime and cyberspace law; cyberterrorism; intrusion detection and incident response; disaster recovery; and computer forensics.

CRJ 3210 Medico-Legal Forensics (3)

This elective course examines the basic concepts of forensic science through advanced scientific crime-solving techniques such as establishing identity through human remains. Topics include forensic anthropology; odontology; radiology; serology; DNA tracing; medical examiner procedures; wound ballistics; and trauma examinations.

CRJ 3220 Criminal Investigations: Procedures and Management (3)

This elective course is an in-depth examination of one of the three cornerstones of traditional policing: criminal investigation. Topics include physical evidence; information sources; interviews and interrogations; eyewitness identifications; crime scene reconstruction; homicide investigations; burglaries; robberies; sex crime investigations; specialized investigations; and managing criminal investigations.

CRJ 3300 Ethics and Criminal Justice (3)

Ethics in Criminal Justice is an intense examination of the ethical considerations facing the criminal justice practitioner. Topics include determining moral behavior; developing moral and ethical behavior; ethics and law enforcement; ethics and the courts; ethics and corrections; the ethics of punishment; policy and management issues; professionalism; and pride and ethics for practitioners.

CRJ 3400 Terrorism: Understanding the Threat (3)

This course is an in-depth examination of the different types of terrorism. Major topics include an overview of terrorism as a political weapon; defining terrorism; examining the causes of terrorism; precepts of domestic and international terrorism; and the religious foundations of terrorism.

CRJ 3410 Domestic Terrorism (3)

This is a study of the foundations of domestic terrorism with an examination of its history and case studies. Topics include current and active domestic groups; and their organizational structure, philosophies, and networks. The discussion will examine the interrelationships and interactions of presently known groups.

CRJ 3420 International Terrorism (3)

Terrorism has become a political tool used against almost all nations of the world. The course will examine known terrorist groups throughout the world, including militant religious groups; religious zealotry; and political groups. The Middle East will be examined in great detail.

CRJ 3430 Management of Incidents of Terrorism (3)

This course is a basic emergency management course that could apply to all aspects of local and state governments, but concentrates on the law enforcement aspect. Topics include overall management techniques; coordination of rescue efforts; the National Incident Management System; and the Unified Command System. Related topics include mutual aid pacts; cooperative efforts with local industry; and manpower and resource management.

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CRJ 3440 Terrorism Prevention (3)

This course is an in-depth examination of both strategic and tactical methods of preventing existing and new forms of terrorism. Related topics include target identification; target protection techniques; and information assimilation and analysis.

CRJ 4000 Law Enforcement Administration (3)

This elective course is a study of the organization, management, and administration of law enforcement agencies. Topics include police administration in the political arena; organizational theory; police organizational structure; leadership; organizational communication; police subsystem tasks; decision making; performance evaluation; and organizational improvement.

CRJ 4200 Special Topics in Criminal Justice (3)

This elective course enables the program to address the very latest issues in law enforcement. Special Topics in Criminal Justice is a seminar course on current issues such as racial profiling; control of terrorism versus individual liberties; and the effectiveness of habitual criminal statutes.

CRJ 4860 Criminal Justice Internship and Practicum (6)

Prerequisites: declared major in criminal justice, senior standing, and permission of the department

This course involves work experience with a cooperating criminal justice agency, public or private. Students must complete at least 160 contact hours during the semester. Students are required to complete documentation requirements and attend two formal meetings during the course of the internship. A major written project relating to the internship experience is required.

CULINARY ARTS (CA)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

CA 2000 Introduction to the Culinary Operation (3)

Background and history of the hospitality industry and introduction to the student of the broad spectrum of hospitality/food service organizations and career opportunities.

CA 2100 Sanitation and Safety (3)

Basic principles of sanitation and safety, and the laws and regulations related to safety, fire, and sanitation. To maintain a safe and healthy environment for the consumer in the food service industry.

CA 2200 Nutrition and Menu Planning (3)

Characteristics, functions, and food sources for the major nutrient groups, and how to maximize nutrient retention in food preparation and storage. Nutrient needs throughout the life cycle and how to apply those principles to menu planning and food preparation.

CA 2300 Culinary Food Preparation (3)

Fundamentals of food preparation, service procedures, sanitation and safety practices in the food service Business, and operating techniques for equipment.

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CA 2400 Food and Beverage Management (3)

Principles of volume food service and the study of food and beverage management problems, receiving, sanitation, menu planning, purchasing, storage, and cost control.

CA 2410 Dining Room Service (3)

Types of dining service appropriate to differing food service operations; students to gain an appreciation of the relationship between “front” and “back” of the house.

CA 2420 Catering and Banquet Management (3)

Catering segments of the culinary arts industry to include sales, menu planning, layouts, floor plans, ceremonial catering, weddings, kosher catering, theme catering, and legal aspects of catering.

CA 2500 Culinary Baking (3)

Baking science, terminology, ingredients, weights and measures, formula conversion and storage; preparation of yeast goods, pies, cakes, cookies, and quick breads; use and care of equipment; sanitation, hygienic work habits, and their conformance with health regulations.

CA 2520 Garde-Manger (3)

Basic garde-manger principles and the functions, and duties of the garde-manger department as they relate to and integrate with other kitchen operations. Introduction to specialty work, which includes ice carving, artistic centerpieces, and buffet decorations.

CA 2530 Purchasing and Receiving (3)

Purchasing and receiving of food, supplies, and equipment for various food service operations.

CA 2600 Bar Service (3)

Principles and practices concerned with bar service, to include alcohol laws and servers' responsibility, operation controls, and security.

CA 2700 Bar Management (3)

Alcohol laws and servers' responsibility, basic mechanics and principles of bartending, and basic understanding of production processes of all alcoholic beverages.

CA 2710 Meat Cutting and Processing (3)

Identification of primal cuts of meat. Proper cutting techniques and skills required for boning and tying poultry and hams, and the basics of hotel-restaurant butchery.

CA 2800 International Food Preparation (3)

Research and prepare menus representative of different countries and cuisines. Emphasized are French, Austrian, Swiss, South American, German, Italian, Dutch, Spanish, and Mexican. Ingredients and techniques unique to the menu are discussed and utilized.

CA 2900 Field Study in the Culinary Operations (3)

Direct contact in a culinary food operation with assigned specific areas of study in various food establishments. Learning objectives will be tailored to the work environment and elaborated upon during classroom study.

ELECTRONICS TECHNOLOGY (ET)**ET 1030 D.C. Fundamentals and Circuits (?)**

Corequisites: ET 1110, ET 1010 *or permission of the instructor*

Analysis of electrical measurements of current, voltage, and resistance, including Kirchhoff's Law, Ohm's Law, series, and parallel and series-parallel circuits. Selected network theorems—superposition, Thevenin and Norton's theorems, and conductors and insulators.

ET 1040 A.C. Fundamentals and Circuits (3)

Prerequisite: ET 1030; *Corequisite:* ET 1120

Analysis of alternating current circuits, inductance, capacitance, reactance, impedance, series-parallel in alternating current circuits, network analysis, more complex circuits, transformers, and resonance.

ET 1120 Advanced Mathematics in Electronics (3)

Prerequisite: ET 1110

Alternating Currents: fundamental ideas, series circuits, parallel circuits, complex algebra, Karnaugh maps, and digital arithmetic.

ET 1150 Calculus for Electronics (3)

Prerequisites: ET 1120, 1040

Fundamental concepts, functions, average rate, limits, graphic differentiation. Derivatives, derivatives applied, integrals, and integrals applied. Definite integrals, logarithmic, and exponential functions.

ET 1210 Electronic Test Equipment and Procedures (3)

Electronic instruments, how they work, and their uses in solving practical problems in the lab.

ET 1230 Electronic Fundamentals and Circuits I (3)

Prerequisites: ET 1040, 1120

Basic concepts of semiconductor diodes and bipolar transistors theory. Diodes and applications, Bipolar Junction Transistor (BJT) operation, biasing, and small signal amplifiers. A study of Junction Field-Effect Transistor (JFET) and Metal Oxide Semiconductor FET transistor (MOSFET) operation, biasing, and small signal amplifiers. Analysis of Class A, Class B, and Class C power amplifiers.

ET 1240 Electronic Fundamentals and Circuits II (3)

Corequisite: ET 1230

Operational amplifiers and integrated circuits, operational amplifier applications, oscillators, active filters, voltage regulators, shockley diodes, silicon controlled rectifier, diad, triac, unijunction transistor, and opto-electronic devices.

ET 2030 Digital Electronics Circuits I (3)

Corequisite: ET 1230 *or permission of instructor*

Concepts of number systems, binary and other number base systems, Boolean algebra and logic systems, logic gate circuits, adders, and flip-flips.

ET 2040 Digital Electronic Circuit II (3)

Prerequisite: ET 2030

Continuation of ET 2030, with the study of shift register counter circuits, multiplexers, digital to analog (D to A) converters, A to D converters, and memory devices.

ET 2140 Communication Circuits I (3)

Prerequisites: ET 1150, 1240

Operation and theory of electronic communication systems. The theory of Amplitude Modulation (AM)/demodulation, Frequency Modulation (FM)/demodulation, and Side Bands.

ET 2150 Communication Circuits II (3)

Prerequisite: ET 2140

Continuation of 2140 with the study of antennas, transmission lines, wave propagation, and fiber optics.

ET 2320 Microprocessor Circuit Construction (3)

Prerequisite: ET 2040

Design of digital systems utilizing a microprocessor.

ET 2330 Electronic Project (3)

Prerequisites: ET 2040, 2140; *Corequisites:* ET 2150, 2320

Design fabrication involving an approved electronic project. Construction includes layout and fabrication of circuit, wiring, and the assembly. The student tests and analyzes the performance of the project and submits a written report.

ET 2410 Digital Communications (3)

Prerequisites: ET 1240, ET 2030

Communication techniques and systems used for digital data transfer. Digital transmission and various modulation techniques, RS-232 interface standard, other communication interfaces, telephone systems and modems, network, error detection, correction, and data security.

ET 2420 Introduction to Computer Architecture (3)

Prerequisite: ET 2320

Introducing computer purposes, computer architectures: memory CPU, computer peripherals, high-level language and data, data input/output, and voice recognition systems.

ET 2430 Introduction to Operating Systems (3)

Prerequisite: ET 2420

Introducing interrelationships of software and hardware in computer systems. A study of scheduling, shared resources, multi-users, security files, multi-tasking, and DOS and UNIX operating systems.

ET 2440 Introduction to Programmable Controller (3)

Introducing programmable logic controllers (PLC), PLC hardware, components, number systems, and codes. Fundamentals of logic; basic PLC programming; developing fundamental PLC wiring diagrams and ladder programs; programming timers and counters; PLC editing and trouble-shooting; and PLC installation practices.

ENGINEERING TECHNOLOGY (ENGT)**ENGT 1000 Introduction to Engineering and Engineering Technology (3)**

Survey of engineering and engineering technology; fields of engineering and the engineering profession; academic training, careers, and job expectations; and technical problem-solving skills.

ENGT 1020 Computer Aided Drafting and Design I (3)

Prerequisite: general computer skills

Use of computers for drafting and design; hardware and software used in two-dimensional mechanical drawing; and dimensioning and plotting on paper to scale. Three dimensional and isometric drawings will also be included.

ENGT 1200 Applied Mathematics for Engineering Technology (3)

Prerequisite: mathematical background equivalent to high-school Algebra I & II

Topics from algebra, geometry, and trigonometry, and in engineering technology applications. Review of algebra and geometry basics; right triangles and trigonometric functions; exponential and logarithmic functions; complex numbers.

ENGT 1400 Applied Calculus for Engineering Technology (3)

Prerequisite: completion of ENGT 1200 or MATH 1730

Application of calculus in technology. Derivatives, applications of derivatives, integration; integration by use of tables, applications of integration. Topics from analytic geometry; conic sections. Introduction to differential equations.

ENGT 1720 Plane Surveying (3)

Prerequisite: MATH 1720 or ENGT 1730

Field procedure necessary for measuring distances, elevations, horizontal and vertical angles, topographic mapping, boundary and area calculations; chain and theodolite and stadia surveying, leveling, and curve ranging.

ENGT 2000 Manufacturing Processes (3)

Principles, processes, and problems associated with conversion of engineering materials into useful forms and goods; machining operations using traditional and computer numerical controlled machine tools.

ENGT 2010 DC Circuits and Applications (3)

Corequisite: MATH 1730 or ENGT 1200

Overview of electrical engineering technology and electronics; direct current equipment and circuits; Ohms Law, series and parallel circuits, Kirchoff's Laws, and Thevenin's and Norton's Theories applied to DC circuit analysis.

ENGT 2020 Robotics Fundamentals (3)

Prerequisites: general computer skills or permission of instructor

Overview of robots and automation technology; terminology; classifications; end-of-arm tooling; sensors and interfacing; control; programming; applications; safety; development; and future trends and social impact. In hands-on activities the students will program robots for some simple tasks.

ENGT 2030 AC Circuits and Applications (3)

Prerequisites: ENGT 2010

Alternating current equipment and circuits; Kirchoff's Laws, and Thevenin's and Norton's Theories applied to AC circuit analysis. Introduction to electronics and electronic components. Overview of electrical and power systems.

ENGT 2500 Construction Materials and Methods (3)

This course covers the properties, uses, and availability of most commonly used construction materials like wood, steel, sand, concrete, concrete admixtures, reinforced concrete, pre-stressed concrete blocks, bricks, and various other new products. The knowledge gained from this course allows student to select the right construction material for a job.

ENGT 2730 Introduction to Solid Modeling (3)

Prerequisites: ENGT 1020

Introduction to technical drawing and solid object modeling using ProEngineer software. Basic techniques for generating 3D solid models. Basic topics in 2D engineering drawing and generation of drawings from solid models.

ENGT 2990 Cooperative Work Experience I (3) – (area of concentration)

Prerequisites: ENGT 1020, *sophomore standing with advisor approval*

An educational experience combining college studies with institutionally supervised and preapproved work experiences at cooperating organizations. Student must apply and be accepted prior to registration. Other regulations apply. See cooperative work experience advisor.

ENGT 3000 Materials Science (3)

Prerequisites: ENGT 2000, 2010 *or permission of instructor*

Introduction to structure, properties, and manufacture of engineering materials including polymers, metals, ceramics, and composites. Atomic, molecular, and crystal structures; crystal geometry and growth will be related to electrical and mechanical properties.

ENGT 3010 Engineering Economics (3)

Prerequisites: MATH 1530, 1730 *or* ENGT 1200

Basics of economic decision making common to industrial management and personal finance. Time value of money and other commonly used measures, for its present or future worth, are compared in investment decisions.

ENGT 3020 Statics and Strength of Materials (3)

Prerequisites: MATH 1730, 1810 *or* ENGT 1200, 1400

Analysis of forces acting on a body at rest, equilibrium of rigid body, friction, center of gravity, moment of inertia, stresses and strains, torsion, shear, bending moment, deflection, Mohr's circle, and column design.

ENGT 3030 Thermodynamics (3)

Prerequisites: MATH 1810 *or* ENGT 1400, PHYS 2010, *and* 2011

Application of thermodynamic principles to energy systems; properties and phase changes; energy conversion; power system operating cycles; refrigeration; and introduction to heat transfer.

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ENGT 3040 Power Transfer Technology (3)

Prerequisites: MATH 1810 or ENGT 1400

Introduction to principles and practices for transfer of power utilizing high electrical voltages, hydraulics, and pneumatics.

ENGT 3050 Problem Solving in Engineering Technology (3)

Prerequisites: MATH 1530, MATH 1810 or ENGT 1400

Creative and analytic methods for solving technological problems. Creative strategies; problem definition; finding solutions; implementation and evaluation. Mathematical tools applied to technological problems. Plotting, data reduction, and curve fitting; statistical methods. Spreadsheets and mathematical analysis software applied to technological problems.

ENGT 3100 Robotics Applications (3)

Prerequisite: ENGT 2020

Applications of robots in various areas; case studies of robotic application related improvement in industries; hands-on Fanuc, Adept, and Mitsubishi robot programming and implementation.

ENGT 3200 Electronics Fundamentals I (3)

Prerequisite: ENGT 2030

Introduction to semiconductor electronic devices: diodes, transistors, and other components. Uses of electronic components to produce useful circuits and equipment.

ENGT 3210 Communications Systems I (3)

Prerequisites: ENGT 3200, MATH 1810 or ENGT 1400

Introduction to communications systems with emphasis on linear integrated circuit applications. AM, FM, and side band generation; and transmission and reception techniques.

ENGT 3220 Digital Design I (3)

Prerequisite: ENGT 2010

Digital combinational circuits. Topics include number systems, logic gates, Boolean algebra, combinational circuit functions and simplification adders, and arithmetic circuits. Karnaugh mapping and data conversion. Students will solve selected problems by application of circuits.

ENGT 3230 Microprocessors (3)

Prerequisites: ENGT 3220, 3250

8-bit and 16-bit microprocessor architecture, assembly language structure, and programming; PPI circuit boarding and I/O programming; 8088 microprocessor and 8255A PPI are used in hands-on activities.

ENGT 3240 Electronic Fundamentals II (3)

Prerequisite: ENGT 3200

Advanced topics in electronics. Use of electronic devices in amplifiers, regulators, and integrated circuits. Operational amplifiers; biasing; and frequencies.

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ENGT 3250 Digital Design II (3)

Prerequisite: ENGT 3220

Digital Sequential Logic. Topics include gate networks, adders, latching, flip-flops, counter circuits, coding, and timing, shift registers, data transmission, memory and storage. Further study of Karnaugh mapping and data conversion and transmission.

ENGT 3510 Contracts Management (3)

This course presents students with an overview of the process of identifying opportunities, responding, securing, and managing work in a contract environment. Students will gain insight into the legal, procedural, and policy environments relative to contract work. Assignments will contain construction contracts.

ENGT 3610 Production/Operations Management (3) - (same as DSCI 3410)

Prerequisites: junior standing, ENGT 3050 or permission of instructor

Methods of efficient plant management, including production scheduling, inventory control, forecasting, linear programming, transportation, statistical analysis, CPM, PERT, simulation, quality control, work management, and maintenance.

ENGT 3650 Statistical Quality Control (3) - (same as DSCI 3530)

Prerequisites: junior standing, ENGT 3050 or permission of instructor

Basic principles and techniques of quality control and its applications to manufacturing process. Emphasis on process control, sampling inspections, reports, and records based on statistical analysis.

ENGT 3660 Managerial Dynamics and Simulation (3) - (same as DSCI 3510)

Prerequisites: ENGT 1020, ENGT 3610

Dynamic phenomena surrounding business and engineering environment through simulation techniques on computer. Problems in queuing theory, inventory processing, sales forecasting, advertising, random number generators, flow charting, and stochastic nature of equations, Buffon's Needle, and discrete and continuous systems.

ENGT 3710 Introduction to Environmental Engineering Technology (3)

Prerequisite: ENGT 2000

Introduction to water, soil, and air pollution, with emphasis on treatment of water and wastes introduced into the environment by manufacturing operations. Environmental regulations and review of environmental chemistry.

ENGT 3720 Architectural CAD (3)

Prerequisite: ENGT 1020

Use of computer aided design software (AUTOCAD) to design and draw architectural floor plans, sections, and elevations; dimensioning; plotting to scale; area calculations; and surveyors drawings.

ENGT 3730 Soil Mechanics (3)

Prerequisite: ENGT 3020

Mechanical and physical properties of soils and their relation to engineering design considerations such as soil classification, shearing strength, settlement, stress distribution, and bearing capacity. Designing size dimensions of footings, retaining walls, and bearing piles.

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ENGT 3790 Planning, Scheduling, and Estimating (3)

Prerequisite: ENGT 3010 or permission of instructor

Planning and scheduling of projects; quantity estimates of materials needed in common civil engineering construction.

ENGT 3800 Computer-Aided Manufacturing (3)

Prerequisites: ENGT 2000, 2020

Concepts of automation, flexible manufacturing, and CAM; uses of CAD/CAM in modern industries. Introduction to manufacturing planning and control, production scheduling, process planning, and data communication. Laboratory activities include CAD/CAM interface (with emphasis on ProCAD/CAM and Verify 3D simulation software), workcell setup, programming, interface, and simulation.

ENGT 3810 Plastics Manufacturing Technology (3)

Prerequisite: ENGT 2000, 3000

Overview of plastic materials; types of plastics and material properties; and industrial manufacturing processes used to make useful products, including injection molding, extrusion, thermo-forming, blow molding, and casting. Plastics manufacturing equipment and operations reviewed in laboratory.

ENGT 3820 Technology and Society (3)

Note: not accepted as ENGT elective for ENGT majors

Overview of technology and the effects of technical innovations on society. Physical, economic, and societal aspects in technical decision making. Ethics in technology. Examination of the public image of technology and its impact on society. Focus on developing technical literacy and preparing students to make informed decisions on technological issues.

ENGT 3830 Metals Manufacturing (3)

Prerequisite: ENGT 2000, 3000

Methods for preparation of metals and alloys including ore dressing; reduction of metal oxides and sulfides; refining of metals and alloys; phase diagrams, physical properties, and classification nomenclature; emphasis on the use of thermodynamics and kinetics; processing of basic stock ready for production of finished metal items.

ENGT 3840 Dynamics (3)

Prerequisites: ENGT 1400, 3020, MATH 1810, PHYS 2010

Fundamental principles of dynamics applied to predicting the motion of particles, collections of particles, and rigid bodies. Introduction to mechanical vibrations.

ENGT 3850 Manufacturing Processes II (3) – (area of concentration)

Prerequisites: ENGT 1020, 2000 and advisor approval

A continuation of computer controlled manufacturing machines to include processes, machine selection, and conversion of geometric analysis into computer numerical control (CNC) language. Students will program and operate a variety of CNC machines.

ENGT 3990 Cooperative Work Experience II (3)

Prerequisites: junior standing

This educational experience combines the student's college studies with institutionally supervised, preapproved work experiences with cooperating organizations. Student must apply for and be accepted prior to registration and present an acceptable report at the end of the project. See the cooperative work experience advisor for more information.

ENGT 4000 Senior Project (3)

Prerequisites: senior standing and advisor approval

Capstone experience prior to full-time employment. Students will work on a technical project in industrial environment. Students must get prior approval for the project and present an acceptable report at the end of the project. Preparation for full-time employment; resumes; interview and job expectations; oral and written presentation of technical subjects; and current topics in industry.

ENGT 4020 Architectural Structure Design (3)

Prerequisite: ENGT 3020

This course covers the design of wooden, steel, and concrete structural members in a building following the appropriate wood structure, steel, and concrete codes, respectively.

ENGT 4120 Sensors and Vision Systems (3)

Prerequisites: ENGT 2020

Contact and non-contact sensors, machine visions, and automatic identification technology used in industries especially for automation. Tactile sensors, proximity sensors, and CCD array sensors, range finding; bar code symbology; image acquisition, processing, analysis and applications; and R&D of sensors and machine visions. Hands-on activities include sensor interfacing, bar coding, vision system setup, image processing, and applications.

ENGT 4150 Programmable Logic Controls (3)

Prerequisites: ENGT 2030, 3230 or 3800

Begins with fundamentals of programmable logic controllers and proceeds through various control diagrams, programming languages, and control circuits. Current availability, use, and operation of PLC's. Students will program A-B's SLC500 and Toyo's PLC.

ENGT 4200 Linear Electronics (3)

Prerequisites: ENGT 3210, 3240

Introduction to linear integrated circuits. Circuit functions and applications with emphasis on operational amplifiers and other state-of-the art devices.

ENGT 4210 Control Systems (3)

Prerequisites: ENGT 4200, MATH 1810 or ENGT 1400

Introduction to fundamentals of control systems beginning with analog analysis and proceeding through digital. Laplace transforms and transfer functions, signal conditioning, and protocols.

ENGT 4220 Communication Systems II (3)

Prerequisites: ENGT 3210, 3220

Introduction to digital communication with emphasis of digital and data communication techniques, satellite communications, and fiber optics.

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ENGT 4500 Occupational Safety and Health (3)

Prerequisite: junior standing

This course covers study of the causes and types of accidents and safety hazards in the workplace, OSHA Acts and Standards, and ethical issues to improve safety and hazards. Proper method of accident investigation and accident reporting are covered thoroughly. Also covered are topics on safety analysis, safety and health training, and safety management.

ENGT 4610 Advanced Concepts in Management Science (3) - (same as DSCI 4410)

Prerequisite: ENGT 3610

Continuation into the advanced sections of production/operations management. Stochastic inventory, non-linear mathematical, and goal programming; effects of quality control, plant layout, and queuing on the overall production process; sensitivity analysis and simulation.

ENGT 4710 Fluid Mechanics (3)

Prerequisites: MATH 1810 or ENGT 1400, PHYS 2010

Physical phenomenon of fluid flows in closed pipes and open channels using fundamental laws and empirical formulae. Fluid properties, manometry, fluid pressure, quantity of flow, submerged bodies, and buoyancy.

ENGT 4720 Advanced Computer-Aided Design (3)

Prerequisites: ENGT 1010, ENGT 1020, *junior standing*

Use of computers in design and drafting of complex structures and machine components through two- or three-dimensional or isometric drawings. Customization of AUTOCAD regarding tablet menu; screen menu, pull down menu, AutoLISP, programming, linetype, and hatch generation.

ENGT 4730 Applied Solid Modeling (3)

Prerequisites: ENGT 2730

Applications of solid object modeling using ProEngineer software. Generation of 3D solid models of complex objects and traditional 2D engineering drawings including sections, elevations, and auxiliary views from solid models. Use of solid models in engineering design and analysis.

ENGT 4800 Machine Operation and Design (3)

Prerequisite: ENGT 3020

Overview of machines, mechanical systems, and machine dynamics. Transmission components and applications. Machine element design based on strength of materials. Machine element failure. Introduction to machine operation, maintenance, and condition monitoring.

ENGT 4810 Advanced Manufacturing Processes (3)

Prerequisite: ENGT 3850

Conversion of working drawings to programs for computer numerical control (CNC) machines. Programming language, variations in controller design, selection of correct CNC process. Application of lecture topics to laboratory exercises. Various products will be manufactured from working drawings using CNC machines.

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ENGT 4850 Computer Integrated Manufacturing (3)

Prerequisites: ENGT 3800

Concepts of Computer Integrated Manufacturing (CIM); relationship to CAM; CIM units, system communication, networking, and the computer-integrated enterprise. Agile and lean manufacturing; Intelligent Manufacturing Systems (IMS); and environmentally conscious and holonic manufacturing. ARENA software is used for manufacturing system simulation and for team projects.

ENGT 4860 Product Safety and Liability (3)

Prerequisites: ENGT 1000, ENGT 2000

Application of engineering technology principles to control hazards affecting safety of industrial products. Development of design criteria for system modification. Agencies that control manufacturing and distribution of hazardous products. Product safety laws and legal liabilities.

ENGT 4870 Facilities and Equipment for Environmental Engineering Technology (3)

Prerequisite: ENGT 3710

Facilities, structures, and equipment developed to treat or remove environmental wastes. Emphasis on operation of facilities and equipment at engineering technology level. Current methods for handling and treatment of solid, liquid, and gaseous industrial and municipal wastes.

ENGT 4880 Refrigeration Machines and Power Systems (3)

Prerequisite: ENGT 3030

Application of thermodynamic principles to understanding and improving power systems and refrigeration machines. Rankine, Otto, Diesel, and Brayton cycles of power; vapor compression and absorption machines for refrigeration. Psychrometrics and combustion, applications of heat transfer, and solar power system.

ENGT 4991 Special Problems (3)

Prerequisites: departmental chair approval

Reserved for ENGT students who need a class for graduation that is not being offered or is closed due to low enrollment. May also be used to study a topic not offered as a regular course.

ENGT 4992 Special Problems (4)

Prerequisites: senior standing and departmental chair approval

Reserved for ENGT students who need a class that includes an Engineering Technology laboratory for graduation that is not being offered or is closed due to low enrollment. May also be used to study a topic not offered as a regular course.

FOOD SERVICE TECHNOLOGY (FS)

Following are course descriptions for technical courses taught exclusively at Fort Campbell.

FS 2040 Cake Decorating (3)

Fundamentals and techniques of cake decorating: the preparation and baking of a variety of cakes and icings, the art of preparing color flow, marzipan, and pastillage.

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FS 2050 Ice Sculpture (3)

Fundamentals and techniques of preparing ice sculptures: ice selection, moving, handling, storage, and the preparation of templates.

FS 2200 Gourmet Foods (3)

Prerequisite: permission of advisor

Creativity in food preparation with emphasis on sectional food in the U.S. and foreign foods. Methods of enhancing appearance and taste of dishes for family and quantity food service; preparation and service. Preparation and use of soups, sauces, gravies, stocks, and beverages.

FS 2500 Decoration and Design (3)

Prerequisite: FS 2200 or permission of advisor

Theory, demonstration, and practice in the production of decoration exhibits work to include string work, color flow, fruit and vegetable sculpture, pastillage, chaud-froid, tallor, and chocolate.

FS 2980 Culinary Skills (3)

Prerequisite: FS 2500 or permission of advisor

The art and technique of culinary arts; the creating and preparing of cocktail canapés, cold buttefish/shellfish, cold buffet meat-poultry/game, cold buffet dessert, decorated edible cake, fancy pastries. Centerpieces—sculptures made of chocolate and tallow, fruit and vegetable, work in pastillage, weight-watcher meals, and breads.

MANAGEMENT TECHNOLOGY (MT)

MT 1000 Introduction to Business Environment (3)

Complex set of interrelationships between the business organization and its environment. Dimensions of work-related experiences, behavioral problems encountered, and issues involved in business/society relationships, and current assessment of the role that business plays within a changing society.

MT 1010 Mathematics of Drugs and Solutions (2)

Fundamental mathematical skills to calculate drug dosage, fractional and decimal arithmetic, and solving for an unknown in a proportion.

MT 1050* Industrial Mathematics (3)

Common and decimal fractions; percentages; ratio and proportion; algebra; areas and volumes; metric measure; graphs; geometrical constructions; trigonometry; work and power; and speed ratios of pulleys and gears.

MT 2010 Accounting Survey (3)

Concepts and principles of accounting: accrual accounting, the accounting cycle, financial statements, and the capital structures of sole proprietorship, partnerships, and corporations.

MT 2030 Marketing Survey (3)

Basic framework and facts of marketing to include marketing research, advertising, direct and indirect selling and distribution, methods of pricing, warehousing, sales control, and sales promotion, with continual emphasis on the consumer, competition, and governmental regulations.

MT 2050 Principles of Management (3)

Organizational management with emphasis on various models and functions. Concepts of the management functions of planning, organizing, and controlling, with an emphasis on behavioral science concepts as applied to managing people in organizations.

MT 2100* Mathematics for Management (3)

Designed primarily for students who are planning to enter the field of business. Arithmetic fundamentals, basic principles of algebra, percentage, discounts, simple and compound interest, annuities, etc., and their application to various phases of business.

MT 2110* Business Statistics (3)

Prerequisites: MT 2100, MATH 1110 or consent of instructor

Methods of gathering and analyzing statistical data by using the process of statistical reasoning; probability and distribution; correlation and regression; expected value; network analysis; queuing theory; economic order quantity; and linear programming. Does not meet the Liberal Arts core requirement for mathematics.

MT 2120 Statistical Process Control (3)

Basic principles and techniques of quality control and its applications to the manufacturing process, process control, sampling inspections, reports and records based on statistical analysis.

MT 2150 Personal Financial Management (3)

Consumer problems including credit, financial statements, budgeting and saving techniques, insurance, legal documents, housing, investments, income taxes, retirement and estate transfer, and family financial liabilities.

MT 2200 Business and Industrial Safety (3)

Safety and health in the business, manufacturing, construction and utilities industries, laws, OSHA, codes, regulations, standards, and product liability considerations. Organizational and administrative principles and practices for safety management and safety engineering, accident investigation, safety education, and safety enforcement.

MT 2250 Introduction to Business Law (3)

Legal rights and potential liabilities of business persons. Principles of business law in contracts, negotiable instruments, personal property, agency employment, and federal and state regulations for proprietorship, partnerships, syndicates, and corporations.

MT 2270 Business Ethics (3)

Contemporary issues in business practice: truth in advertising, the use of power and influence, the social responsibility of business, affirmative action and equal opportunity, and the ethics of profit.

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MT 2370 Human Relations in Business (3)

Human interactions with the social, organizational, and human elements encountered in the work environment, group processes, group structures, group conflicts, cohesion, leadership, group productivity, and decision making.

MT 2400 Human Resource Management (3)

Organization, functions, and administration of a personnel department, including selecting, training, placement, morale, leadership, promotion, appraisal, pay incentives, employee-employer relationship, and laws affecting the personnel function.

MT 2450 Labor Relations (3)

Applied labor and manpower problems in the U.S.; the relationship between management and unions; collective bargaining; contract administration; and impasse procedures in the public and private sectors.

MT 2500 Purchasing and Logistics (3)

Purchasing and logistics management of materials and equipment in industry and government. Control and flow of materials through the manufacturing process. Storage and handling of materials internal to plant operations, study of the optimum quality, price, source, quantity, and time.

MT 2550 Small Business Operations (3)

Analysis of problems and considerations involved in establishing, planning, organizing, and operating new business ventures, special research reports, field projects, case analyses, and panel discussions with business persons.

MT 2570 Production Management (3)

Methods of efficient plant management, production scheduling, inventory control, forecasting, linear programming, transportation, procedures of MRP, JIT, and other techniques.

MT 2600 Seminar: Special Topics in Industrial Management (3)

An in-depth examination of topics of a timely interest to the manufacturing community.
*Does not fulfill Liberal Arts Mathematics Core requirements.

POLICE SCIENCE AND ADMINISTRATION (LAW ENFORCEMENT) (LEN)

LEN 1010 Introduction to Criminal Justice (3)

Agencies involved in the administration of criminal justice and their purposes, goals, and actual functions. Evaluation of law enforcement responsibilities, techniques, and methods of police and patrol.

LEN 1020 Criminal Law and Procedure (3)

Prerequisite: COR 1090

Overview of criminal trial procedures; historical background of constitutional rights; and rules governing the admissibility of evidence and types of evidence. Includes laws of arrest, search, and seizure. Case law is applicable to each area.

LEN 1030 Criminalistics (3)

Crime scene protection, proper identification of evidence, including dusting latent prints, casting, fingerprint classification, and use of portable crime laboratory equipment.

LEN 1040 Police Firearms (3)

Basic skills, safety, and techniques governing the use of firearms; civil and criminal implications; and practical application of firing standard police weapons. Instruction and practice in various legal and humane tactics for self-defense.

LEN 1050 Business and Industrial Security (3)

Comparative examination of the relationship of the Criminal Justice System and business and industrial security. An overview of the administrative, personnel, and physical aspects of the security field.

LEN 1060 Evidence Photography (3)

Prerequisites: LEN 2020, LEN 2030

Applying photographic techniques in criminal investigation; types of cameras and lighting to record all types of evidence on film; and darkroom reproduction theories and practice.

LEN 1080 Patrol Procedures and Practices (3)

Patrol as a major activity of police service, including historical evolution of the concepts; methods of patrol; management and administration of a patrol force; and analysis of the effectiveness of traditional and non-traditional techniques.

LEN 1100 Basic Photography (3)

Familiarization with the nomenclature of the camera, film varieties, dark-room procedures, printing, developing of film, use of video camera, and theory and application of photographic communication.

LEN 1110 VIP Executive Protection (3)

Extended knowledge of motorcade and personal protective techniques utilized by governmental police agencies to counter criminal and terrorist attacks against official visitors, presidential candidates, and other protective details; conduct a "hands-on" protective operation.

LEN 1120 Terrorism: Understanding the Threat (3)

International, transnational, and local forms of terrorism. Terrorist goals, supporting organizations, trends, threats, targets, and modus operandi.

LEN 1130 Crisis Counseling (3)

Theories of victim crisis counseling; learning how to identify, analyze, and understand the abashment of victimization, including sexual, child, and drug abuse.

LEN 1140 Tactical Shotgun (3)

Shotgun proficiency through practical exercises, day and low-light combat, and history of the shotgun in law enforcement, its limitations, and nomenclature.

LEN 1150 Street Survival Seminar (3)

Trends and factors causing death and personal injury to police officers; elements of danger present while on duty; tactical procedures; and safeguards, preparation, planning, and reaction to hazardous situations.

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LEN 1160 Accident Reconstruction (3)

Traffic accidents through scientific methods of calculating vehicle speed prior to, and post, accident. Accident report writing and collision diagrams.

LEN 1170 Sect, Cults, Deviant Movements (3)

History, precepts, and current philosophies of paganism, witchcraft, Satanism, Santeria, and Brujeria. Examine ceremonial and magical rituals, signs, symbols, secret alphabets, ritualized abuse, black mass, and cult-occult crime investigation; psychological and sociological effects of fantasy role playing games and black/heavy-metal music on adolescents.

LEN 1180 Basic Surveillance Techniques (3)

Foot and vehicle surveillance to insure undetected observation of primary and selected targets; day and night observation using all methods of surveillance.

LEN 1190 Unarmed Defensive Tactics (3)

Physically active course that consists of basic, practical, and useful techniques for law enforcement, military, and civilian personnel with reduced legal and medical liabilities to themselves and their departments.

LEN 2010 Police Administration (3)

Prerequisite: permission of advisor

Organization, administration, and function of the police agency; policy procedures; operational duties and commands; evaluation of the planning, research, and development process; and relationship of theoretical administrative concepts to practical police problems.

LEN 2020 Criminal Investigation (3)

Criminal investigation including crime-scene search and recording, collection and preservation of evidence, a survey of related forensic science, interviews and interrogations, methods of surveillance, case preparation, and presenting the case to court.

LEN 2030 Criminal Evidence (3)

Prerequisite: COR 1090

Criminal evidence rules, types of evidence, principle of exclusion, evaluation and examination of evidence and proof, competency of witness, hearsay rule and opinion, pretrial discovery, and testimony in court.

LEN 2040 Drug Identification and Effects (3)

Identification and pharmacological effects of controlled substances, and guides to identification by color, trade name, and drug code. A critical examination of the physiological, sociological, psychological, and legal aspects of drug abuse.

LEN 2050 Juvenile Procedures (3)

Legal and philosophical concepts and jurisdiction of the juvenile justice system. Development and trends in juvenile court movement.

LEN 2080 Internship in Criminal Justice (3)

Prerequisite: permission of advisor

Off-campus practical work experience in an appropriate field. The student must spend 24 hours with the agency, supervised by a field supervisor and the course instructor. Seminars and written reports required.

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LEN 2110 Criminal Intelligence (3)

Collation, review, and analysis of criminal intelligence, and law enforcement's application of the intelligence process to combat white-collar crime.

LEN 2130 Interviewing and Interrogation Techniques (3)

Interviewing techniques utilized in interviews with victims, witnesses, and subjects of investigations.

LEN 2170 Advanced Sects, Cults, Deviant Movements (3)

History and current philosophies of traditional and non-traditional cults, explore ceremonial and ritual magical processes, and Afro-Caribbean cults. Investigative processes and crime-scene investigation involving crimes motivated by deviant non-traditional cults.

LEN 2180 Countering Terrorism (3)

Acquaint students, law enforcement officers, and security personnel with current knowledge of the terrorist threat facing U.S. personnel, and provide them with current state-of-the-art security precautions to overcome that threat. Basic terrorist related terminology, terrorist organization structure-composition, weapons, foreign support, objectives, and goals.

LEN 2190 Tactical Training (3)

Historical development of special weapons and tactical teams, techniques of urban and rural movement, breaching techniques, forced entry methods, surreptitious and dynamic entry, and clearing.

PROFESSIONAL STUDIES (PTMA)

PTMA 3000 Organizational Team Building (3)

Using theoretical principles of adult learning and group dynamics, this course introduces students to the skills required to effectively manage team processes. Students learn how to use project teams, select team members, lead effective meetings, and work through team problems.

PTMA 3010 Management of Organizations

This is a survey course of the field of management and its role within complex organizations. Key elements of management theory and practice to be covered include planning, organizing, controlling, and leading in organizations.

PTMA 3020 Managing Information Technology (3)

Prerequisites: AOM 2110, CSCI 1000 or MIS 1100 or equivalent proficiency

Provides an awareness of the role of information technology in the work environment and organizations. Major concepts, developments, and managerial implications involved in computer hardware, software, communications, and other computer-based information technology will be explored.

PTMA 3050 Cultural Diversity in Organizations (3)

Theoretical and practical approaches to the complexities of issues of diversity will be examined by reviewing typical values, habits, interactions, and concerns of different cultural groups in the workplace. Students will identify and practice strategies to overcome barriers and conflict in the workplace.

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PTMA 3060 Organizational Ethics (3)

Discussion of ethical issues, the development of a moral frame of reference and the need for an awareness of social justice in management practices and business activities. Review of ethical responsibilities and relationships between organizational departments, divisions, executive management, and the public.

PTMA 3070 Professional Development (3)

Emphasis on career analysis and acquisition, time management, listening skills, oral and nonverbal communication competencies, participative management responsibilities, interpersonal skills, multi-cultural awareness, and leadership strategies. Participation in professional and community service organizations and professional development opportunities will be encouraged.

PTMA 3100 Global Logistics (3)

Case study analyses and exercises recognizing the interrelationship of logistics and supply chain management. Logistical operations using domestic and global logistics channels will be explored. In addition, content will address the discovery and impact of the demands placed on companies due to cultural differences, currencies, governmental, and environmental issues.

PTMA 3120 Intercultural Business Communication (3)

This course focuses on an understanding of cultural priorities with actual business practices. A combination of intercultural skills as well as culturally diverse workplace environments and communication processes will be explored.

PTMA 3230 Workforce Management (3)

This is a survey course of the field of human resource/personnel and its role within an organization. Key elements of managing the personnel function will be explored. Current issues including outsourcing, EEO, affirmative action, and ADA will be explored.

PTMA 3400 Total Quality Management (3)

This course is designed to inspire students to increase their expertise in the practices and principles of quality. The course begins with a detailed study of quality philosophy and proceeds to the study of quality applications.

PTMA 3240 Financial Measurement, Analysis, and Reporting (3)

This course develops the basic concepts and procedures underlying corporate financial statements and introduces tools for analyzing profitability and risk. Students will explore the impact of the alternatives available within generally accepted accounting principles on financial statements, especially in terms of managements financial reporting strategy.

PTMA 3450 The Quality Manager (3)

This course provides a thorough understanding of the principles, terms, and concepts of quality management to include quality standards, implementing organizational assessments, and building and maintaining customer satisfaction.

PTMA 3460 The Quality Auditor (3)

This course provides a thorough understanding of the standards and principles of auditing, and the auditing techniques of examining, questioning, evaluating, and reporting to determine a quality system's adequacy and deficiencies. Students will learn how to analyze all elements of a quality system and judge its degree of adherence to the criteria of industrial management and quality evaluation and control systems.

PTMA 3465 Quality Process Control for Non-Statisticians (3)

This course teaches students how to translate organizational missions and strategies into comprehensive sets of performance measures using proactive indicators of performance such as financial, customer, internal process data, and indicators of learning and innovation.

PTMA 3500 Methods of Performance and Productivity Assessment (3)

This course is designed to expose students to fundamental theories of organizational performance measurement, such as Management by Objectives and Total Quality Management. In addition, the course will train managers in the use of these techniques for the purpose of improving the overall management and operation of organizations.

PTMA 3510 Organizational Fraud Conduct and Procedures (3)

Emphasis on the conduct of fraud examinations, including a discussion of specific procedures used in forensic examinations and the reasoning behind the use of these procedures. Coverage extends to detection, investigation, and prevention of specific types of fraud committed against organizations and individuals.

PTMA 3600 Organizational Marketing (3)

This is a survey course of the field of marketing and its role within an organization. It examines marketing concepts, terms, and management and includes study of the areas of product development, place, promotion, and price.

PTMA 3650 Global Marketing (3)

This course will introduce students to the fundamental concepts of marketing and business used in an international marketing environment. There will be special emphasis on cultural influences and the political, legal, and economic environments that make up the global economy. Students will learn how to conduct market research through the analysis of product planning, promotion, adaptability, foreign exchange and international finance, distribution channels, and alternative methods of operating.

PTMA 3990 Contract Management (3)

This course presents students with an overview of the process of identifying opportunities (grants or RFPs, for example), responding, securing, and managing work in a contract environment. Students will gain insight into the legal, procedural, and policy environments relative to contract work.

PTMA 4020 Written Professional Communication (3)

Prerequisites: ENGL 1010/1020 or AOM 2300

Communication theory applied to the professions with emphasis on effective writing. Practices and mechanics of researching, writing, and editing reports, proposals, procedures/policies, and typical business correspondence will be included. Students will be exposed to information technology, ethics in writing, and intercultural communications.

PTMA 4100 Economic Issues for Organizations (3)

This course frames economic issues from the perspective of organizations and how organizations respond. The content will cover both micro and macro economic perspectives. Students will have the opportunity to apply economic principles to a wide variety of cases presented and available to students, as content is made available.

PTMA 4220 White Collar Crime (3)

An examination of the nature and extent of white collar crime to include the concepts, trends, theoretical explanations, the methods and mechanics of social control used by society and the criminal justice system in this context.

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PTMA 4400 Strategic Planning for Organizations (3)

This course provides a pragmatic study of the design and development of strategic thinking and organizational alignment that can yield high-impact results and measurably add value to the organization, its clients, and society.

PTMA 4500 Management of Operations (3)

This course consists of a managerial overview and analysis of business concepts and strategies. Emphasis is on the study of incorporating major functions of business, enabling organizations to improve efficiency and effectiveness in the highly competitive global and local markets. Specific topics to be covered include planning, communication, material management, safety, marketing, finance, government, and society.

PTMA 4600 Project Management (3)

This course presents students with an overview of project management environments with an emphasis on the basic building blocks of selection, planning, managing, and closing out projects. The use of technology as a management tool will be explored in some detail as well. Students are encouraged to take this course toward the end of their program.

PTMA 4800 Organizational Training and Development (3)

Investigates theories of learning and instructional development for the education and training of employees. Topics include instructional design, implementation, evaluation, and management of training in organizational environments. Trends and careers in training and development and the role of training as a technology implementation strategy, and the trainer as a change agent are emphasized.

PTMA 490A Special Problems in Professional Studies (1)

PTMA 490B Special Problems in Professional Studies (2)

PTMA 490C Special Problems in Professional Studies (3)

Specialized independent study under the direction of a faculty member. Junior standing and supervising faculty approval of research topic(s) are required.

PTMA 4990 Professional Studies Capstone (3)

Prerequisite: completion of 36 hours of upper division credit which has been accepted and applied to the degree requirements for the Bachelor of Science in Professional Studies

This course is the capstone learning experience for the Professional Studies major. It focuses on how organizations formulate, implement, and evaluate strategies. The course is designed to integrate the student's functional organizational knowledge in the service of completing a strategic analysis of an existing organization or through building a strategic plan for an entrepreneurial venture

PTMA 4995 Special Topics in Professional Studies (3)

This course is designed to address specific current problems and topics in the area of management. Relative importance of current trends and issues in the field of management and availability of faculty expertise and/or experience will determine the frequency of course offering. Course will be offered as an elective within the Bachelor of Professional Studies program.

PUBLIC MANAGEMENT (PM)

PM 2500 Statistics for Public Management (3)

Introduction to basic statistics needed for conducting social science research.

PM 3010 Developing Volunteer Programs (3)

This class is designed to foster and develop a theoretical understanding and a practical application for private citizens/agencies and public agencies to work together in providing a wide range of public services, from feeding and clothing, neighborhood crime watch, and Habitat for Humanity to mental health assistance. In this class we will explore and examine effective methods for managing volunteer programs supported by private and public agencies. This analysis will be conducted from an historical perspective.

PM 3140 Introduction to the Legal Process (3)

Provides a basic background in the United States legal process for students who want only an overview of the process or who plan to take additional courses in the legal field. The course will survey the history of the common law, legal reasoning, basic terminology, legal research, and the legal profession, and provide an introduction to civil and criminal processes.

PM 3150 The American Criminal Justice System (3)

Describes and analyzes the system's operational components from a multi-disciplinary perspective. Material is drawn from administrative sciences, law, human behavior, sociology, psychology, and political science, in addition to criminal justice.

PM 3160 Civil Rights and Civil Liberties (3)

Focuses on civil liberties in terms of congressional statutes and judicial rulings. The impact of judicial rulings on the implementation and administration of statutory law is examined.

PM 3170 Criminal Law (3)

Provides an analysis of the nature and theories of law and the substantive nature of common law and statutory law regarding criminal sanctions. Constitutional case law is the primary mode of analysis.

PM 3180 Criminal Procedures (3)

The procedural aspects of criminal law pertaining to police powers, in connection with the laws of arrest search and seizure, the exclusionary rule, eavesdropping, confessions, and related decision making factors.

PM 3200 Public Sector Management (3)

Management in the public sector with a special focus on the ways in which government employs a wide variety of disciplines in the implementation of public policy.

PM 3230 Public Personnel Administration (3)

Governmental policies in the United States relating to the staffing of public administrative agencies. Examination of the structure of the civil service system, personnel recruitment, selections, training, and collective bargaining by public employees.

PM 3235 Public Policy Analysis (3)

The policy-making process with emphasis on policy analysis. Specific policy areas included for analysis are welfare, criminal justice, education, civil rights, energy, the environment, and regulation of the economy.

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PM 3240 Public Budgeting and Financial Management (3)

Budgeting and financial management in the public sector. Reviews the governmental revenues and expenditures. Analyzes the practices and procedures of public financial management.

PM 3250 The Principles and Practice of Urban Planning (3)

Methods and procedures used in urban planning; practical dimensions of collecting, reviewing, and developing plans useful for local projects.

PM 3310 Race and Cultures in Administration and Politics (3)

An examination of controversies relating to racial integration of schools, neighborhoods, and the workplace. An analysis of the relationship between racism and workplace, crime, family disorganization, and the role of racial fears, along with reasons for not eliminating injustice through changes in policy and legislation.

PM 3400 Women and Administration (3)

The role of women in administration. A focus on the problems and opportunities in the workplace with the entrance of women in administration.

PM 3710 Evaluation and Effectiveness (3)

This course is designed to expose students to the prominent techniques of individual group and team performance evaluation. It is also designed to develop managers trained to utilize and apply these techniques to public and quasi-public sector organizations, for the purpose of quantifying individual, team, and group performance and for improving organizational effectiveness.

PM 3760 Methods and Research for Administration (3)

The nature of the scientific method and basic techniques in social science research as applied to the collection, analysis, and interpretation of social and management data.

PM 4090 Comparative Public Administration (3)

Introduction to the governmental administrative and political systems of both developed and underdeveloped countries. Focus on the political system and its manifestation in the administrative system.

PM 4100 Normative Theory and Public Management (3)

Classical conception of political philosophy through an in-depth study of how the major political philosophers dealt with the problems of individual and social justice, the best possible regime forms, and the natural criteria of evaluating and judging the management of public institutions.

PM 4120 Organizational Theory and Behavior (3)

An introduction to organizational theory and its relationship to behavior and management.

PM 4320 Administrative Law (3)

The procedural law of public agencies and the exercise of discretion and control through internal procedures and judicial review. Special emphasis is directed toward the legal environment of public administration and the impact of court decisions on the administrative process.

PM 4330 Political Aspects of Criminal Behavior (3)

An examination of criminal behavior of individuals and the effects of their behavior on the political system. Both the reality of criminal behavior and the perception of crime will be examined in relation to measures taken to control the behavior of criminals.

PM 4340 Public Sector Labor Law (3)

An examination of the emergence and impact of unionization and collective bargaining on the public sector, with emphasis on the role of the public administrator. Administrative and court decisions to examine issues of current significance concerning public sector labor relations.

PM 4350 Employment Discrimination Law (3)

Concentrates on employment distinctions based on invidious grounds such as race, gender, religion, national origin, age, and handicaps. It examines Title VII of the Civil Rights Act of 1964, the Age Discrimination Act, the Equal Pay Act, and various executive orders pertaining to employment discrimination.

PM 4360 Ethics in Public Administration and Not-for-Profit Organizations (3)

The management of public and non-profit organizations must be, by definition, ethical. This is an undergraduate course on ethical management for public services and non-profit organizations. The main purpose of this course is to provide a comprehensive coverage of ethical issues in managing public services and a variety of not-for-profit organizations. This course introduces students to various aspects of administrative ethics with specific reference to public sector management. The seminar-style course is designed to help students learn about the basic ethical principles that should guide administrative decision making within the public sector. By the end of the course, students should be familiar with the different paradigms and ethical constructs that are inherent within the process of ethical reasoning. An underlying theme of this course is one of intertwining theory and practice. In fact, ethical theories will be tested out in practice, and practice will be grounded in theory.

PM 4370 Managing Not-for-Profit Organizations (3)

The non-profit sector is the fastest growing category of organizations in the U.S. This course focuses on key aspects of managing a variety of not-for-profit organizations. It also identifies some of the controversial issues and challenges facing the non-profit sector. This course is designed to be an exploration of the goals and activities of the Not-For-Profit (NFP), Private Volunteer Organization (PVO), and Non-Governmental Organization (NGO), and of the wide variety of issues faced by employees and managers in these organizations.

PM 4380 Training and Development in Public Sector and Non-Profit Organizations (3)

This undergraduate course is designed to provide students interested in the field of human resources with knowledge and skills necessary to understand the processes of learning, training, and development and their applications in public and non-profit organizations. This course is a guide to the design, implementation, and evaluation of training needs; design of relevant training curricula; implementation of training programs with appropriate training methods and trainers; and effective evaluation of training programs with reference to the job performance of the employee and organizational effectiveness.

468 School of Tech and Public Mgt Course Descriptions

PM 451A, B, C Selected Topics in Public Management (3 each)

Prerequisite: must have department chair's permission

An examination of a selected topic in public management by an instructor on a one-time basis.

PM 4810 Professional Seminar in Public Management (3)

Professional skill development seminar for those students preparing for public management internships.

PM 4860 Public Management Internship and Practicum (6)

Supervised work experience with a cooperating governmental or quasi-governmental agency. Students also must meet biweekly in a seminar organized around topics relating to the intern experience.

WELDING TECHNOLOGY (WT)

WT 1050 Introduction to Welding Processes (3)

Preparation for entry into the field of welding. Basic fundamentals of gases, filler rods, and basic metallurgic principles: Arc, TIG, and MIG welding machines. Shop practices with safety emphasized.

WT 1150 Basic Oxy-Acetylene Welding (3)

Making of various types of welded joints using steel and brazing rods on mild steel plate in the various welding positions, safe handling of fuel gases and bead, butt, lap and fillet welds, and flame cutting.

WT 1250 Basic Arc Welding (3)

Safe use of manual arc welding equipment and welded joint designs, bead formation, equipment and electrode selection, and joint designs.

WT 1300 Basic Tungsten Inert Gas Welding (3)

Prerequisite: WT 1050 or permission of adviser or instructor

Inert-gas shielded arc welding (TIG) with manually operated torch, set-up and adjustment, and manipulative skill, ferrous, and non-ferrous metals.

WT 2050 Metal Inert Gas Welding (3)

Prerequisite: WT 1050 or permission of adviser or instructor

Manipulative welding skills using a semi-automatic welding gun, welding basic joints, and maintenance and adjustment of equipment for MIG machines.

WT 2250 Advanced Arc Welding (3)

Prerequisite: WT 1250 or permission of adviser or instructor

Cutting and preparing steel plate for single vee-groove welds; making butt, fillet, and groove welds, using stringer and weave bead; structural certification test procedures; and typical structural test plates are cut, beveled, and welded.

WT 2350 Advanced Tungsten Inert Gas Welding (3)

Prerequisite: WT 1300 or permission of adviser or instructor

A continuation of the TIG process; joining of heavy gauge nonferrous metals; ferrous and nonferrous pipe welding; flat, vertical, horizontal, and overhead welding methods for TIG and SMA pipe welding.

WT 2450 Specialized Welding Processes (3)

Prerequisites: WT 1150, WT 1300, WT 2050 or permission of adviser or instructor

Methods of brazing, oxy-acetylene aluminum welding, cast iron welding, and oxy-acetylene stainless steel welding; MIG process of welding aluminum.

WT 2550 Principles of Pipe Welding (3)

Prerequisite: WT 1250 or permission of adviser or instructor

Pipe cut-off, joint preparation and setup, welding various sizes and thicknesses of pipe, 5G and 6G positions, pipe equipment, operation, and preparation.

WT 2650 Welding Metallurgy and Blueprint Symbols (3)

Weldability of metals; effects of heat on different metals, joint design, and welding stress control; preequalizing welding certification procedures; testing of weldness and code welding procedures; and welding symbols in blueprint sketches.

WT 2700 Certification Practices-Plate Welding (3)

Prerequisites: WT 2250, WT 2650 or permission of adviser or instructor

Welding of plate steel in all positions to meet certification standards of the American Welding Society; destructive and nondestructive test methods.