

African Studies • Anthropology • Arabic • Art

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

University College: Arts • Sciences • Professional Studies

Metropolitan Campus, Teaneck, New Jersey; and Vancouver Campus, British Columbia, Canada

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Africana Studies

School of Criminal Justice, Political Science and International Studies

AFST1101

3 Credits

Africa and Africans I: History and Traditions

This is an introductory survey course on Africa. This course provides students with insights into the history, traditions and the African society before 1800. The course will focus on the family, ideas, linkages, kinships and ways of life of the African people.

AFST1102

3 Credits

Africa and Africans II: Communities and Culture

This survey course will introduce students to the diversity of the African continent. It will introduce students to African communities and cultures as well as focus on the relationship among African societies and between Africa and the rest of the world. It will provide insights into contemporary Africa (since 1800) including its arts, economy, ideas, literature, music, politics, etc. Prerequisite: AFST1101 Africa and Africans I: History and Traditions.

Anthropology

School of Psychology

ANTH3101

1 Credit

Introduction to Mayan Civilization

This course provides an overview of Mayan history, culture, art and archaeology, as well as field experiences at several ancient Mayan cities, excavation sites and caves (e.g., Baking Pot, Cahal Pech, Caracol and Xunantunich). Students will have an opportunity to explore everything from the jade-filled tombs of rulers to post-classic period refuse dumps, as well as the opportunity to learn about excavation techniques, mapping and methods for surveying cultural remains. Specific topics include Mayan

household archaeology, Mayan ideology and post-classic Mayan achievements. A field course in Belize, Central America (in cooperation with FDU's sister institution, Galen University).

Arabic

School of the Humanities

ARAB1101

3 Credits

Elementary Arabic I

An introduction to contemporary spoken and written Arabic.

ARAB1102

3 Credits

Elementary Arabic II

A continuation of ARAB1101 Elementary Arabic I. Prerequisite: ARAB1101 Elementary Arabic I or equivalent.

ARAB2103

3 Credits

Intermediate Arabic I

A continuation of conversation and reading in contemporary Arabic with emphasis on the cultural context of the language. Prerequisite: ARAB1102 Elementary Arabic II or equivalent.

ARAB2104

3 Credits

Intermediate Arabic II

A continuation of ARAB2103 Intermediate Arabic I. Prerequisite: ARAB2103 Intermediate Arabic I or equivalent.

Art

School of Art and Media Studies

Art History and Lecture

ART1101

3 Credits

Art Appreciation

Basic elements underlying various forms of the visual arts. (Cannot be counted toward a major or secondary area of concentration in fine arts.)

ART1105

3 Credits

Principles of Art Appreciation

This course is designed to introduce students to the language of art through an examination of

the elements and principles of design. Eastern and Western styles will be included in discussions of masterworks. Aesthetic judgment, compositional organization and artistic methodology will be examined in each case. Emphasis will be on the viewing and discussion of works within a specific context involving some demonstrations and hands-on studio experiences. Museum visits and art experiences will be designed to reach the ultimate goal, i.e., an appreciation of art.
Fall, Spring

ART1107

3 Credits

Development of Art I

History of art from ancient through medieval times. Required of all art majors.

ART1108

3 Credits

Development of Art II

History of art from the Renaissance through the present. Required of all art majors.

ART1112

3 Credits

Medieval Art

Painting, sculpture, architecture and minor arts from the early Christian through the Gothic periods.

ART1120

3 Credits

Modern Art to Mid-century

The major movements in painting, sculpture and architecture in Europe and America in the late 19th and early 20th centuries.

ART1131

3 Credits

History of Graphic Design and Illustration

A survey of visual-communication systems from early global civilization through book and magazine illustration, poster and advertising art from the 19th century to the present. (Equivalent to COMM1131 History of Graphic Design and Illustration.)

ART1133

3 Credits

History of Photography

History of photography from Niépce to the present day.

Art

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ART1135

3 Credits

Cinema I: The Director's Vision

Cinema theory, technique, technology and style. Weekly screenings of important films. May be repeated, but student may not repeat topic.
Fall *Fee*

ART1136

3 Credits

Cinema II: Themes in Films

Major films in historical and contemporary cinema and their unique contributions to film theory, technique, technology and style. May be repeated, but student may not repeat topic.
Spring *Fee*

ART1137

3 Credits

History of Fashion Design

This course is a study of the history of fashion through the ages — from Egypt and ancient Greece to the present day. Sketching, written assignments and observation will be used to gain knowledge on the subject. *FDU NetID (formerly Webmail) account required.*

ART2157

3 Credits

Global Roots of American Architecture

This survey course introduces students to American architecture with the emphasis on global influences brought by a unique makeup of the population of immigrants. Prerequisite: ENWR1001 Composition I: Rhetoric and Inquiry. Corequisite: ENWR1002 Composition II: Research and Argument.

ART2238

3 Credits

The Global Art World

Via the internet as virtual art world, the purpose of this course is to acquaint students with visual art from around the world. The class will travel the globe to visit museums, galleries and artists. Students will become acquainted with relationships between historical and contemporary work and how it interconnects all continents and countries.

Art Studios

ART1141

3 Credits

Two-dimensional Design

Basic elements and principles of two-dimensional design and composition. (Freshman art major foundation.)

Fall

Fee

ART1142

3 Credits

Three-dimensional Design

Basic elements and principles of three-dimensional design and composition. (Freshman art major

foundation.) Prerequisite: ART1141 Two-dimensional Design.

Spring

Fee

ART1144

3 Credits

Color Theory I

The physical and psychological properties of color and the application of these phenomena in the creative arts.

Fee

ART1147

2 Credits

Introduction to Studio Arts I

Drawing, painting and composition for non-art majors. Basic techniques and practical application of elements and principles of design.

(Cannot be counted toward a fine arts major.)

Fee

ART1151

3 Credits

General Drawing I

Basic techniques and concepts in creative drawing from observation and imagination. (Freshman art major foundation.)

ART1153

3 Credits

Life Drawing I

Basic concepts and techniques of drawing the human form through observation of live models. (Freshman art major foundation.)

Fee

ART1157

3 Credits

Printmaking I

Basic printmaking techniques and their aesthetic possibilities. Monoprints, linocuts and wood-blocks.

Fee

ART1158

3 Credits

Silk-screen Printing I

Serigraphy: The artistic use of silk-screen method of printing. Basic techniques of single and multicolored printing.

Fee

ART1159

3 Credits

Monotype Printmaking

This course will explore Monotype technique using Xerox copy transfer, stencil masking, texture transfer, paper collage and brayer method on unique rubber plate and paper lithography. All processes will be demonstrated in class and applied through printing sessions and critiques.

Fee

ART1161

3 Credits

Painting I

Painting in acrylic or oil media. Problems of form, expression and technique.

Fall, Spring

ART1167

3 Credits

Collage and Mixed Media

Constructing works of art from paper and castoff materials, including three-dimensional objects and boxes in assemblage.

ART1169

3 Credits

Watercolor Painting I

Fundamentals of transparent watercolor painting. Stretching, wash techniques and brush manipulation.

ART1170

3 Credits

Advertising Design

Principles of design applied to commercial layouts. (Equivalent to COMM1170 Advertising Design.)

ART1172

3 Credits

Designing with Color

With online lectures, offline reading, uploaded graphics and computing conferences, students will explore the way of using the computer to design with color, developing color schemes and design projects.

ART1174

3 Credits

Desktop Publishing I

Fundamentals of layout, design and typography on the computer. Introduction to publishing on the computer using Quark Xpress®, Adobe® Illustrator® and Adobe® Photoshop®. (Equivalent to COMM1174 Desktop Publishing.)

ART1177

3 Credits

Introduction to Digital Media

Fundamentals of using the computer as a drawing/painting medium. Digitizing, video imaging and manipulation of digital information to create visual art. (Equivalent to COMM1177 Introduction to Digital Media.)

ART1178

3 Credits

Multimedia on the Internet

Fundamentals of interactive design for the web using Macromedia Flash. Useful in multimedia and web design. Three contact hours required for all students. Extended laboratory of two contact hours required for art majors only.

ART1179**3 Credits****Digital Illustration and Design**

The use of the computer as a primary tool in illustration and design. Extended laboratory for art majors only.

ART1181**3 Credits****Sculpture I**

Developing perceptual skills through clay, plaster and mixed media.

*Fee***ART1187****3 Credits****Ceramics I**

Clay structure; methods of coil, slab and wheel construction; firing and glazing.

*Fall**Fee***ART1189****3 Credits****Jewelry I**

Basic design concepts and creation in metal jewelry.

ART1192**3 Credits****Digital Photography I**

Fundamentals of electronic imaging to input photographic materials and manipulate them in a digital environment for creative use and commercial application.

ART1830**3 Credits****Adobe® Photoshop® for Illustration**

Using Adobe® Photoshop®. Traditional illustration techniques are revised to enable the artist to work directly on the computer.

ART1832**3 Credits****Alternative Art I**

A study of underground and outsider art forms beyond the scope of the traditional, including body-art (tattoos, piercing, etc.). Performance art, folk art and rituals.

*Winter Session***ART1834****3 Credits****Alternative Art II**

Building on concepts covered in ART1832 Alternative Art I.

ART1837**3 Credits****Alternative Art III**

Utilizing basic skills covered in ART1832 and ART1834 Alternative Art I and II. Students will be expected to create finished pieces of alternative art.

ART1838**3 Credits****Elementary Digital Video**

A hands-on class in the creation of short videos utilizing video download to digital files, nonlinear editing and postproduction on the computer. Students will make their own videos from concept to completion. (Equivalent to COMM1838 Elementary Digital Video.)

ART1841**3 Credits****Pastel Drawing I**

An introduction to drawing techniques using color.

ART1843**3 Credits****Design for the Web**

Introduction to design issues specific for the web. The course includes an overview of how the internet functions. It covers basic website interactivity and navigation, image adjustment and compression, as well as basics of multimedia on the web.

ART2182**3 Credits****Wood Sculpture**

Basic shop practices and production for building wood sculpture.

ART2189**3 Credits****Basic Jewelry II**

Introduction to basic casting techniques and model making for jewelry and small sculpture. Prerequisite: ART1189 Jewelry I or permission of instructor.

ART2215**3 Credits****Photoshop® for Advertisement and Illustration**

The use of Photoshop® in the creation and manipulation of digital artwork for editorials and advertising in print media. Student projects are modeled after real-world commercial assignments.

ART2247**2 Credits****Introduction to Studio Arts II**

Sculpture and graphics for nonart majors. Basic techniques. Elements and principles of design applied to three-dimensional forms and printmaking. (Cannot be counted toward a fine arts major.) Prerequisite: ART1147 Introduction to Studio Arts I.

*Fee***ART2253****3 Credits****Life Drawing II**

Continued practice of drawing the human figure through observation of live models. Emphasis

on lectures and outside projects on skeletal and muscular structures. Prerequisite: ART1153 Life Drawing I or permission of instructor.

*Fee***ART2257****3 Credits****Printmaking II**

An extension of and further study of skills and techniques covered in ART1157 Printmaking I. Students will be encouraged to develop their own projects.

ART2258**3 Credits****Silk-screen Printing II**

Various stencil methods of silk-screen reproduction including photographic film. Techniques of multicolor printing emphasized. Prerequisite: ART1158 Silk-screen Printing I or permission of instructor.

*Fee***ART2261****3 Credits****Painting II**

Continuation of ART1161 Painting I. Prerequisite: ART1141 Two-dimensional Design, ART1161 Painting I or permission of instructor.

ART2269**3 Credits****Watercolor Painting II**

Advanced techniques in water-soluble media. Emphasis on original procedures for painting various subjects including still life and landscape. Prerequisite: ART1169 Watercolor Painting I or permission of instructor.

ART2271**3 Credits****Adobe® After Effects: Broadcast Graphics**

This course is an introduction into the world of broadcast motion graphics for television and the web using an industry-leading software, Adobe® After Effects. Students learn basic animation techniques while creating short movies — animated logos, titles and openings.

ART2274**3 Credits****Computer 3-Dimensional Modeling**

Students will learn the design aspects of creating three-dimensional graphics for broadcast applications and design tools for creating virtual sets.

ART2275**3 Credits****Computer Animation II**

Continuation of animation principles with a focus on three-dimensional animation.

Art

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ART2277

3 Credits

Illustration

Book, magazine, editorial, advertising and humorous illustration. Prerequisite: ART1151 General Drawing I, ART1153 Life Drawing I or ART1161 Painting I, ART1169 Watercolor Painting I or permission of instructor.

ART2281

3 Credits

Sculpture II

Continued problems in three-dimensional art using clay, plaster and mixed media. Prerequisite: ART1142 Three-dimensional Design or ART1181 Sculpture I.

Fee

ART2287

3 Credits

Ceramics II

Advanced problems on potter's wheel and additional work in glazing and firing. Prerequisite: ART1187 Ceramics I or permission of instructor.

Fee

ART2294

3 Credits

2-D Computer Animation

Development of storyboards and characters, introduction of two-dimensional animation on the computer for online games and short movies.

ART2295

3 Credits

3D Computer Animation

Fundamentals of creating three-dimensional animation from conception to final presentation on the computer. (Equivalent to COMM1175 Computer Animation I.)

ART2648

3 Credits

Basic Video Editing

Introductory video/audio editing techniques, procedures and theory. A hands-on approach utilizing nonlinear video-editing equipment to edit video projects. Corequisite: ART2649 Basic Video Editing Laboratory. (Equivalent to COMM2648 Basic Video Editing.)

ART2649

0 Credits

Basic Video Editing Laboratory

Video/audio editing with the professional AVID digital nonlinear editing system. These labs will emphasize a hands-on approach in the editing of video projects. Corequisite: ART2648 Basic Video Editing.

ART2675

3 Credits

Basic Video Production

Classroom and hands-on field production course introducing students to the principles and prac-

tices of video/digital production and postproduction. This includes camera shooting and digital video editing. (Equivalent to COMM2673 Basic Video Production.)

ART2841

3 Credits

Pastel Drawing II

This course builds on the basic media and color techniques of ART1841 Pastel Drawing I and includes experimental pastel techniques.

Prerequisite: ART1841 Pastel Drawing I.

ART3255

3 Credits

Drawing for Animation II

Using two-dimensional animation, advanced cell drawing and storyboarding to make an animation. Prerequisite: ART2294 2-D Computer Animation.

ART3352

3 Credits

General Drawing III

Advanced exploration of both the students' environment and selected drawing media.

ART3353

3 Credits

Life Drawing III

Advanced media and techniques in drawing human figures from live models. Emphasis on expressive content, form and style. Prerequisites: ART1153 Life Drawing I and ART2253 Life Drawing II.

Fee

ART3361

3 Credits

Painting III

Solutions to problems of form and content in painting through individual creative development. Prerequisite: ART2261 Painting II or permission of instructor.

ART3372

3 Credits

Motion Graphics: Broadcast and Web Animation

Working with Adobe® After Effects and Macromedia Flash, students will explore computer animation and motion graphics. Students will produce animations that can be recorded onto video or exported to the web.

ART3387

3 Credits

Ceramics III

Continued problems in clay. Prerequisite: ART2287 Ceramics II or permission of instructor.

Fee

ART3675

3 Credits

Advanced Video Production

The study of video/digital preproduction, production and postproduction with an emphasis on professional techniques, procedures and theory. (Equivalent to COMM3675 Advanced Video Production.)

ART3749

3 Credits

Advanced Video Editing

This is a project-oriented, hands-on course that emphasizes enhanced editing techniques, procedures and theory. Prerequisite: ART2648 Basic Video Editing. (Equivalent to COMM3749 Advanced Video Editing.)

ART4450-ART4449

1-3 Credits

Selected Studies in Art

Studies in an area of art.

ART4472

3 Credits

Senior Seminar

Preparation for the extensive exploration of a specific topic in one's area of concentration under the guidance of a faculty mentor.

ART4473

3 Credits

Senior Project

Extensive exploration of a specific topic in one's area of concentration under the guidance of a faculty mentor.

ART4475, ART4476

Variable Credits

Honors Art

Independent study in art for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

ART4498

3 Credits

Internship in Art

Consult with department for further information. Prerequisites: upper-division standing and permission of school director or internship adviser. Maximum of 6 hours for all internships.

ART4821

3 Credits

Portfolio

Students will learn to prepare a professional portfolio for presentation after college. Portfolios for specialized needs will be addressed.

Biological Sciences

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Biological Sciences

School of Natural Sciences

Courses for Nonmajors

BIOL1001

3 Credits

Lecture 2 hours

Principles of Modern Biology

Basic principles of biology using evolution as the unifying theme of a study of biologically important chemicals, structure and functions of cells, organisms, plants and animals. The interactions of individuals and populations are examined to understand humanity's impact on the environment. Corequisite: BIOL1011 Laboratory: Principles of Modern Biology.

Fall, Spring

BIOL1011

0 Credits

Laboratory 2 hours

Laboratory: Principles of Modern Biology

Scientific method, microscopy, cells, cell structure, function, division, osmosis, diffusion, tests for carbohydrates, fats, proteins, chlorophyll analysis for pigments, Mendelian genetics, study of animal and plant tissues with organization and dissection of a small vertebrae. Corequisite: BIOL1001 Principles of Modern Biology.

Fee

BIOL1060

3 Credits

Lecture 2 hours

Genetics and Society

An introduction to genetics with emphasis on the impact of new developments in genetic technology on the individual and on society. Transmission of genes in families, genetic counseling and reproductive decisions, treatment and diagnosis of inherited disease, genes in populations. Current topics such as cloning, stem cell research and genetically modified foods will be discussed. Corequisite: BIOL1061 Laboratory: Genetics and Society.

BIOL1061

0 Credits

Laboratory 2 hours

Laboratory: Genetics and Society

Laboratory exercises supplementary to concepts examined in BIOL1060 Genetics and Society. Corequisite: BIOL1060 Genetics and Society.

Fee

BIOL1105

3 Credits

Lecture 2 hours

The Human Environment

Includes interaction among the biological, chemical and physical topics, population growth, technological change, resource availability and pollution problems. Corequisite: BIOL1115 Laboratory: The Human Environment.

BIOL1106

3 Credits

Lecture 2 hours

Over-the-Counter Drugs

Characteristics and development of nonprescription drugs. Mechanisms of action of over-the-counter medications. Effects on major body systems. Interactions with prescription medications, food supplements and herbs. Side effects and contraindications. Over-the-counter medications in the media and sports. Corequisite: BIOL1116 Laboratory: Over-the-Counter Drugs.

BIOL1115

0 Credits

Laboratory 2 hours

Laboratory: The Human Environment

Experiments illustrating the topics discussed in BIOL1105 The Human Environment. Corequisite: BIOL1105 The Human Environment.

Fee

BIOL1116

0 Credits

Laboratory 2 hours

Laboratory: Over-the-Counter Drugs

Laboratory investigations of the effects of over-the-counter medications on living systems. Corequisite: BIOL1106 Over-the-Counter Drugs.

Fee

BIOL2125

4 Credits

Lecture 3 hours

Microbiology for the Health Sciences

Introduction to microbial world, bacteriology, virology, mycology, parasitology and immunology. Suitable for students planning a career in health sciences. Prerequisites: CHEM1107 Chemistry for Health Sciences and CHEM1117 Laboratory: Chemistry for Health Sciences. Corequisite: BIOL2126 Laboratory: Microbiology for the Health Sciences.

BIOL2126

0 Credits

Laboratory 2 hours

Laboratory: Microbiology for the Health Sciences

Isolation and identification of common pathogenic and nonpathogenic organisms, staining,

culturing, fermentation reactions and microscopic examinations. Prerequisites: CHEM1107 Chemistry for Health Sciences and CHEM1117 Laboratory: Chemistry for Health Sciences. Corequisite: BIOL2125 Microbiology for the Health Sciences.

Fee

BIOL2203, BIOL2223

4 Credits

Lecture 3 hours; Laboratory 2 hours

Human Anatomy and Physiology I

Study of organ systems of the human body. The cells, tissues, integumentary system, skeletal system, articulations, muscular system, nervous system and special senses. Required of students in the nursing program.

Fee

BIOL2204, BIOL2224

4 Credits

Lecture 3 hours; Laboratory 2 hours

Human Anatomy and Physiology II

Study of organ systems of the human body. Circulatory system, lymphatic system, urinary system, endocrine system, male and female reproductive systems and embryonic development. Required of students in the nursing program. Prerequisite: BIOL2203, BIOL2223 Human Anatomy and Physiology I.

Fee

Courses for Students in the Sciences

BIOL1251

3 Credits

Lecture 3 hours

General Biology I

Modern biological principles and processes relating to organismal diversity, evolution, ecology and behavior. Corequisite: BIOL1253 Laboratory: General Biology I.

BIOL1252

3 Credits

Lecture 3 hours

General Biology II

Modern biological principles and processes relating to organismal diversity, evolution, ecology and behavior. Cell structure and function, cell metabolism and genetics biochemistry will be covered. Corequisite: BIOL1254 Laboratory: General Biology II.

BIOL1253

1 Credit

Laboratory 3 hours

Laboratory: General Biology I

Experiments illustrating the topics discussed in BIOL1251 General Biology I. Corequisite: BIOL1251 General Biology I.

Fee

Biological Sciences

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BIOL1254

1 Credit

Laboratory 3 hours

Laboratory: General Biology II

Experiments illustrating the topics discussed in BIOL1252 General Biology II. Corequisite: BIOL1252 General Biology II.

Fee

Courses for Majors

BIOL1210

3 Credits

Lecture 2 hours

Introduction to Aquaculture and Hydroponics

An introduction to aquaculture and hydroponics to illustrate the practices of biological sustainability. Discussions will focus on the biological requirements of aquaculture organisms and the engineering requirements of typical manmade flowing-water systems. Mathematical models and calculations will be employed to create sustainable business models for aquaculture and hydroponics. Corequisite: BIOL2121 Lab: Introduction to Aquaculture and Hydroponics.

BIOL2121

0 Credits

Laboratory 2 hours

Lab: Introduction to Aquaculture and Hydroponics

Experiments illustrating the topics discussed in BIOL2120 Introduction to Aquaculture and Hydroponics. Corequisite: BIOL2120 Introduction to Aquaculture and Hydroponics.

BIOL2150

0 Credits

Laboratory 4 hours

Laboratory: Ecology and Field Biology

Fieldwork illustrating the topics discussed in BIOL2250 Ecology and Field Biology. Corequisite: BIOL2250 Ecology and Field Biology.

Fee

BIOL2210

4 Credits

Lecture 2 hours

Genetics

Study of transmission of inherited characteristics, the structure and function of the genetic material, mutation, manipulations of genetic material by recombinant DNA techniques and their applications, genomics, proteomics, population genetics and evolution. Prerequisites: BIOL1251 General Biology I; BIOL1252 General Biology II; BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II; CHEM1201, CHEM1203 General Chemistry I; CHEM1202, CHEM1204 General Chemistry II. Corequisite: BIOL2211 Laboratory: Genetics.

BIOL2211

0 Credits

Laboratory 4 hours

Laboratory: Genetics

Laboratory exercises emphasize experimental design and methods and enhance understanding of principles of genetics through problem solving. Prerequisites: BIOL1251 General Biology I; BIOL1252 General Biology II; BIOL1253 Laboratory: General Biology I; BIOL1254 Laboratory: General Biology II, CHEM1201, CHEM1203 General Chemistry; and CHEM1202, CHEM1204 General Chemistry II. Corequisite: BIOL2210 Genetics.

BIOL2257, BIOL2259

4 Credits

Lecture 3 hours; Laboratory 2 hours

Human Structure and Function I

Study of the structure and adaptive homeostatic control of organ systems. Contemporary problems in the environmental and health sciences are related to the human body. Laboratory includes organ dissection. Open to sophomore and junior biology majors. Prerequisites: BIOL1251 General Biology I and BIOL1253 Laboratory: General Biology I.

Fall, Spring

Fee

BIOL2250

4 Credits

Lecture 2 hours

Ecology and Field Biology

Relationships of organisms and their environment. Ecosystem analysis including study of abiotic components, organisms, population dynamics and community structure. Corequisite: BIOL2150 Laboratory: Ecology and Field Biology.

Fee

BIOL2300

3 Credits

Experimental Design

This course examines the scientific research process, with hands-on exercises in statistical data analysis and the analysis of original research procedure using Excel, SAS and SPSS technologies. The analysis of experimental design in original research papers is through the identification of experimental variables, graphical representations, statistical techniques, data interpretation and research theses. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I and BIOL1254 Laboratory: General Biology II.

BIOL3225

4 Credits

Lecture 2 hours

General Microbiology

Introduction to microorganisms' structure, biochemistry, genetics and physiology and their interactions with animals and other organisms. Prerequisites: BIOL1251 General Biology I,

BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II, CHEM1201 General Chemistry I, CHEM1202 General Chemistry II, CHEM1203 General Chemistry Laboratory I, CHEM1204 General Chemistry Laboratory II, CHEM2261 Organic Chemistry I, CHEM2262 Organic Chemistry II, CHEM2263 Organic Chemistry Laboratory I and CHEM2264 Organic Chemistry Laboratory II. Corequisite: BIOL3226 Laboratory: General Microbiology.

BIOL3226

0 Credits

Laboratory 4 hours

Laboratory: General Microbiology

Isolation and identification of common pathogenic and nonpathogenic organisms utilizing staining, culturing, biochemical analysis and microscopic inspection. BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II, CHEM1201 General Chemistry I, CHEM1202 General Chemistry II, CHEM2261 Organic Chemistry I, CHEM2262 Organic Chemistry II, CHEM2263 Organic Chemistry Laboratory I and CHEM2264 Organic Chemistry Laboratory II. Corequisite: BIOL3225 General Microbiology.

Fee

BIOL3345

3 Credits

Lecture 3 hours

Molecular Genetics

Structure and function of genomes and proteomes. Experimental manipulation of macromolecules including restriction mapping, cloning and identification of recombinant molecules. Applications in research, medicine, agriculture and forensics. Gene mining for pharmacogenomics and gene therapy. Use of internet databases. Ethical, legal and social issues. Prerequisites: BIOL2210 Genetics and BIOL2211 Laboratory: Genetics.

Fall, Spring

BIOL3357

4 Credits

Lecture 3 hours

Human Structure and Function II

Intensive study of the structure and function and adaptive homeostatic control of organ systems. Emphasis will be on problem-solving techniques and applications of concepts to clinical situations. Prerequisites: BIOL1251, BIOL1253 General Biology I; BIOL1252, BIOL1254 General Biology II; and BIOL2257, BIOL2259 Human Structure and Function I. Corequisite: BIOL3358 Laboratory: Human Structure and Function II.

Fall, Spring

Biological Sciences

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BIOL3358**0 Credits****Laboratory 2 hours****Laboratory: Human Structure and Function II**

Laboratory exercises include the study of physiological control mechanisms. Emphasis will be on basic physiological principles covering muscular, cardiovascular, pulmonary and central nervous system. Prerequisites: BIOL1251, BIOL1253 General Biology I; and BIOL1252, BIOL1254 General Biology II. Corequisite: BIOL3357 Human Structure and Function II. *Spring*

BIOL3417**3 Credits****Lecture 3 hours****Introduction to Recombinant DNA**

DNA structure and function, methods of creating and cloning recombinant DNA molecules in prokaryotic and eukaryotic systems and applications of these manipulations in biology, medicine, agriculture and industry.

BIOL4000**1 Credit****Curricular Practical Training**

A curricular practical training (CPT) requirement for work experience course/independent study registration in most academic programs at FDU. The training experience is integral to the course, and the detailed course objectives will be on a separate independent study proposal form. The student's work or training experience will be: part-time (20 hours or less per week) or full-time (more than 20 hours per week). A non-letter grade of "P" for Pass or "NC" for No Credit will be applied to degree audit as this course will be excess credit and not counted toward a degree requirement.

BIOL4220**4 Credits****Lecture 2 hours****Histology**

Understanding of normal microscopic form and function of human tissues through lectures and discussions which require introduction to microscopic techniques and microscopic work. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II. Corequisite: BIOL4221 Laboratory: Histology.

BIOL4221**0 Credits****Laboratory 4 hours****Laboratory: Histology**

Microscopic analysis of the structure of normal human and animal tissues as related to their functions. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I,

BIOL1254 Laboratory: General Biology II.

Corequisite: BIOL4220 Histology.

*Fee***BIOL4235****4 Credits****Lecture 2 hours****Developmental Biology**

Life cycles and the evolution of developmental patterns, principles of experimental embryology, genes and development techniques and ethical issues, genetic core of development, differential gene expression, cell-to-cell communication in development. Prerequisites: BIOL1251 General Biology I and BIOL1253 Laboratory: General Biology I. Corequisite: BIOL4236 Laboratory: Developmental Biology.

BIOL4236**0 Credits****Laboratory 4 hours****Laboratory: Developmental Biology**

Examining early and late embryonic development in selected invertebrates, amphibians, fish, birds and mammals in addition to metamorphosis, regeneration and aging as related to environmental regulation of animal development and mechanisms of evolutionary change. Prerequisites: BIOL1251 General Biology I and BIOL1253 Laboratory: General Biology I. Corequisite: BIOL4235 Developmental Biology.

*Fee***BIOL4240****4 Credits****Lecture 2 hours****Molecular Cell Biology**

This course investigates the central concept of gene expression, DNA to RNA to protein and cell structure/function by integrating structure/function of biomolecules, biotechnology/molecular techniques, regulatory mechanisms for gene expression, protein targeting, signals/signal transduction pathways, cell cycle, cell/extracellular matrix organization, stem cells, cell birth, cell death and cancer. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II. Corequisite: BIOL4241 Laboratory: Molecular Cell Biology.

BIOL4241**0 Credits****Laboratory 4 hours****Laboratory: Molecular Cell Biology**

Experiments illustrating the topics discussed in BIOL4240 Molecular Cell Biology. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II. Corequisite: BIOL4240 Molecular Cell Biology.

*Fee***BIOL4405****3 Credits****Lecture 3 hours****Ethics in Science**

Studies relating to the ethical application of advances in sciences to humans, other living organisms, ecosystems and the planet. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I and BIOL1254 Laboratory: General Biology II.

BIOL4414**3 Credits****Lecture 2 hours****Animal Behavior**

Principles of animal behavior. History, methods, genetics, evolution, physiology of biological rhythms, learning, communication, migration, habitat selection and foraging. Corequisite: BIOL4415 Laboratory: Animal Behavior.

BIOL4415**1 Credit****Laboratory 4 hours****Laboratory: Animal Behavior**

Experiments illustrating the topics discussed in BIOL4414 Animal Behavior. Corequisite: BIOL4414 Animal Behavior.

*Fee***BIOL4420****3 Credits****Lecture 3 hours****Evolution**

Evolutionary biology at all levels of organization (molecular to societal). Established principles of evolution, why and how evolutionary reasoning follows from the scientific method. Prerequisites: BIOL2210, BIOL2211 Genetics and MATH1201 Calculus I.

BIOL4432**3 Credits****Selected Studies in Biology**

Recent developments in special fields of biology.

BIOL4476, BIOL4875**Variable Credits****Honors Biology**

Independent study in biology for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

BIOL4800**1-3 Credits****Independent Study**

Independent study under the direction of a faculty member after consultation with the school director.

Fee

Chemistry

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BIOL4803

3 Credits

Research in Biological Sciences I

This course will explore a specific topic within either ecology and environmental biology, cell and molecular biology, anatomy and physiology and microbiology or biochemistry. Using a project-based approach, the course progresses from a survey of basic lab techniques to the application of current techniques in the specific areas of study. Topics will change with each course offering and will be chosen for their relevance and importance within the field.

BIOL4804

1–4 Credits

Research in Biological Sciences II

This course is a continuation of a topic initiated in BIOL4803 Research in Biological Sciences I. This course will explore a specific topic within either ecology and environmental biology, cell and molecular biology, anatomy and physiology and microbiology or biochemistry using a project-based approach, where students master the application of current techniques in the specific area of study. Topics will change with each course offering and will be chosen for their relevance and importance within the field.

Prerequisite: BIOL4803 Research in Biological Sciences I.

BIOL4855

4 Credits

Lecture 3 hours

Molecular Biology Techniques

The concepts of molecular techniques including DNA isolation and analysis (DNA isolation, plasmid preparation, spectrophotometry, agarose gel electrophoresis, southern blotting, DNA profiling); RNA isolation and analysis (chromatography, RT-PCR, microarrays); protein expression (ELISA, polyacrylamide gel electrophoresis, western blotting); and genomic cloning, screening, sequencing and bioinformatics (expression vectors, databases). Corequisite: BIOL4856 Lab: Molecular Biology Techniques.

BIOL4856

0 Credits

Laboratory 2 hours

Lab: Molecular Biology Techniques

Experiments illustrating the topics discussed in BIOL4855 Molecular Biology Techniques. Corequisite: BIOL4855 Molecular Biology Techniques.

Fee

BIOL4900, BIOL4901

1 Credit Each Semester

Biology Seminar I and II

A series of lectures by invited speakers on topics of current interest. Exposure of students to research developments and techniques in selected areas of specialization.

Graduate Courses

Graduate courses may be taken by seventh- or eighth-semester students who receive the approval of the school director. A list of courses and descriptions is contained in the *Graduate Studies Bulletin*.

Chemistry

School of Natural Sciences

Courses for Nonmajors

CHEM1107

4 Credits

Lecture 3 hours

Chemistry for Health Sciences

Chemical principles with examples taken from health sciences. Organic compounds significant for the medical field and biochemical processes with human focus. Corequisite: CHEM1117 Laboratory: Chemistry for Health Sciences.

Fall, Spring

CHEM1117

0 Credits

Laboratory 2 hours

Laboratory: Chemistry for Health Sciences

Illustration of the principles discussed in CHEM1107 Chemistry for Health Sciences. Corequisite: CHEM1107 Chemistry for Health Sciences.

Fall, Spring

Fee

CHEM1118, CHEM1119

3 Credits

Lecture 2 hours; Laboratory 2 hours

Forensic Science

The forensic analysis of substances such as glass, bullets and drugs will be discussed along with the basic, analytical and organic chemistry on which they are based.

CHEM1135

3 Credits

Lecture 2 hours

Science and Art

The science of materials used in painting, sculpture and graphic arts. Conservation, restoration, detection of art forgeries. Corequisite: CHEM1136 Laboratory: Science and Art.

CHEM1136

0 Credits

Laboratory 2 hours

Laboratory: Science and Art

Experiments illustrating the topics discussed in CHEM1135 Science and Art. Corequisite: CHEM1135 Science and Art.

Fee

CHEM1201, CHEM1202

6 Credits (3 Credits Each Semester)

Lecture 3 hours each semester

General Chemistry I, II

The fundamental laws, theories and principles of chemistry, with emphasis on atomic structure, chemical bonding, periodic classification of the elements, solutions, equilibrium, reaction kinetics and the theory and practice of the qualitative chemistry of the common ions. Prerequisites: elementary algebra and for CHEM1202 General Chemistry II grade of C- or higher in CHEM1201 General Chemistry I. Corequisites: CHEM1203, CHEM1204 General Chemistry Laboratory I, II.

Fall, Spring, Summer

CHEM1203, CHEM1204

2 Credits (1 Credit Each Semester)

General Chemistry Laboratory I, II

Practical applications of the fundamental laws, theories and principles of chemistry through problem solving and laboratory experiments. Prerequisite: elementary algebra. Corequisites: CHEM1201, CHEM1202 General Chemistry I, II.

Fall, Spring, Summer

Fee

Courses for Majors

CHEM2211

3 Credits

Lecture 3 hours

Inorganic Chemistry I

Principles of atomic and molecular structure, stereochemistry, periodicity and bonding, with emphasis on the main group elements and their descriptive chemistry. Also covers topics such as hydrogen bonding, acid-based chemistry, inorganic polymers, geochemistry and metallic bonding. Prerequisites: CHEM1201 General Chemistry I and CHEM1203 General Chemistry Laboratory I.

Fall

CHEM2261, CHEM2262

6 Credits (3 Credits Each Semester)

Lecture 3 hours each semester

Organic Chemistry I, II

Structure and chemical properties of aliphatic and aromatic compounds of carbon, with emphasis on electronic theory, mechanisms of reaction and principles of synthesis. Prerequisites: CHEM1202, CHEM1204 General Chemistry II and for CHEM2262 Organic Chemistry II grade of C- or higher in CHEM2261 Organic Chemistry I. Corequisites: CHEM2263, CHEM2264 Organic Chemistry Laboratory I, II.

Fall, Spring, Summer

CHEM2263, CHEM2264

4 Credits (2 Credits Each Semester)

Laboratory 4 hours each semester

Organic Chemistry Laboratory I, II

A laboratory course taken concurrently with CHEM2261, CHEM2262 Organic Chemistry I,

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II, which illustrates important principles of structure and reactivity, synthesis and analysis of organic compounds. Corequisites: CHEM2261, CHEM2262 Organic Chemistry I, II.
Fall, Spring, Summer *Fee*

CHEM3251, CHEM3252

4 Credits

Lecture 2 hours; Laboratory 4 hours

Analytical Chemistry

Theoretical principles of quantitative analysis with applications to gravimetric and volumetric methods. Prerequisite: CHEM1202, CHEM1204 General Chemistry II.
Fall *Fee*

CHEM3241

3 Credits

Lecture 3 hours

Physical Chemistry I

The principles of physical chemistry from the molecular and microscopic aspects; kinetic theory, quantum mechanics, spectroscopic studies and statistical concepts; thermodynamics, chemical phase equilibria, electrolytes and electrochemistry. Prerequisites: CHEM2262, CHEM2264 Organic Chemistry II and MATH2202 Calculus II. Corequisite: CHEM3243 Physical Chemistry Laboratory I.
Fall

CHEM3242

3 Credits

Lecture 3 hours

Physical Chemistry II

The principles of physical chemistry from the molecular and microscopic aspects; kinetic theory, quantum mechanics, spectroscopic studies and statistical concepts; thermodynamics, chemical phase equilibria, electrolytes and electrochemistry. Prerequisites: CHEM3241, CHEM3243 Physical Chemistry I. Corequisite: CHEM3244 Physical Chemistry Laboratory II.
Spring

CHEM3243, CHEM3244

4 Credits (2 Credits Each Semester)

Laboratory 4 hours each semester

Physical Chemistry Laboratory I, II

Laboratory experiments demonstrating fundamental laws, concepts and mathematically derived relationships involving selected physico-chemical properties of matter and energy. Corequisites: CHEM3241, CHEM3242 Physical Chemistry I, II.
Fall, Spring *Fee*

CHEM3281

3 Credits

Lecture 3 hours

Biochemistry I

Chemistry of substances of biological significance, with particular emphasis on proteins, enzymes, nucleic acids, sugars, lipids, hormones and vitamins. Prerequisite: CHEM2262,

CHEM2264 Organic Chemistry II.

Fall, Spring

CHEM3282

3 Credits

Lecture 3 hours

Biochemistry II

Study of metabolism, storage and expression of genetic information and other current aspects of

CHEM4000

1 Credit

Curricular Practical Training

A curricular practical training (CPT) requirement for work experience course/independent study registration in most academic programs at FDU. The training experience is integral to the course and the detailed course objectives will be on a separate independent study proposed form. The student's work or training experience will be: part-time (20 hours or less per week) or full-time (more than 20 hours per week). A non-letter grade of "P" for Pass or "NC" for No Credit will be applied to degree audit as this course will be excess credit and not counted toward a degree requirement.

CHEM4253

3 Credits

Lecture 3 hours

Instrumental Analysis

Theory and applications of absorption, emission and interpretative spectroscopy, electrochemistry and chromatography to problems of chemical analysis. Introduction to interfacing, data acquisition and data manipulations.
Spring

CHEM4254

2 Credits

Laboratory 4 hours

Instrumental Analysis Laboratory

Practical laboratory experiments in absorption, emission and interpretative spectroscopy electroanalytical methods, chromatography and elementary interfacing.
Spring *Fee*

CHEM4314, CHEM3314

3 Credits

Lecture 2 hours; Laboratory 2 hours

Inorganic Chemistry II

Application of molecular orbital theory, solid state theory and ligand field theory to inorganic systems with emphasis on the properties and reactions of compounds of the transition elements. Laboratory demonstration of current techniques of preparing and characterizing inorganic compounds.
Spring *Fee*

CHEM4430

1–3 Credits Each Semester

Selected Studies in Chemistry

Recent developments in special fields of chemistry.
Fall, Spring

CHEM4800

1–3 Credits Each Semester

Independent Study in Chemistry

An individual research project undertaken under a faculty supervisor. A final research report must be submitted. Open only to upper-level students.
Fall, Spring

Graduate Courses

Graduate courses may be taken by seventh- or eighth-semester students with the approval of the school director. A list of courses and descriptions is contained in the *Graduate Studies Bulletin*.

Chinese

School of the Humanities

CHIN1009

3 Credits

Basic Chinese for Business Purposes

This course is designed to support students enrolled in internships in China who want to use Chinese as a tool to communicate with the Chinese people, especially for business purposes. Such students are assumed to have no previous background in Mandarin. The course will focus on business Chinese, as well as some useful words and expressions for the daily life. Listening and speaking skills are emphasized and extensively practiced in the classroom.

CHIN1101

3 Credits

Elementary Chinese I

Selections that encourage conversation, reading and writing.

CHIN1102

3 Credits

Elementary Chinese II

Continuation of CHIN1101 Elementary Chinese I. Prerequisite: CHIN1101 Elementary Chinese I or equivalent.

Civil Engineering

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

CENG1205

3 Credits

Lecture/Laboratory 4 hours

Surveying I

The first of a two-course sequence in surveying as applied to the construction industry. Such areas as layout and control of buildings and roads, earthwork measurements, horizontal and vertical curves, superelevation on curves, computer applications to surveying and electronic measurements will be studied. Prerequisite: MATH1107 Precalculus or equivalent.
Fall

Civil Engineering

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CENG1206

3 Credits

Lecture/Laboratory 4 hours

Surveying II

The second of a two-course sequence in surveying as applied to the construction industry. Such areas as layout and control of buildings and roads, earthwork measurements, horizontal and vertical curves, superelevation on curves, computer applications to surveying and electronic measurements will be studied. Prerequisite: CENG1205 Surveying I.

Spring

CENG1245

3 Credits

Lecture/Laboratory 4 hours

Construction Materials and Systems

An introduction to the methods, equipment and personnel employed in constructing buildings and subsystems of buildings such as foundations, walls, floors and roofs. The types and physical properties of construction materials.

Fall

CENG3250

3 Credits

Structural Analysis

Classical analysis methods of determinate and indeterminate structures. Deflection calculation of beams and trusses, work-energy methods, influence line concept for moving loads.

Prerequisite: ENGR2228 Strength of Materials.

Fall

CENG3256

3 Credits

Steel Structures

The application of the principles of statics and strength of materials in the design and analysis of structural steel beams, columns, trusses and frames, connections and base plates, all in accordance with current AISC (American Institute of Steel Construction) specifications.

Prerequisite: CENG3250 Structural Analysis or permission of instructor.

Fall

CENG3257

3 Credits

Concrete Structures

The analysis and design of reinforced concrete beams, girders, slabs and columns, all in accordance with current ACI (American Concrete Institute) code and standards. Corequisite: CENG3250 Structural Analysis.

CENG3260

3 Credits

Lecture/Laboratory 4 hours

Environmental Engineering

Water and water-resources management in natural and urban areas. Design and management of facilities for water supply and wastewater treatment, development of watersheds, hydrographs, flow routing, stormwater quality and

quantity control and other topics related to water resources. Utilization of water resources simulating models and tools, including Arc-GIS, HEC-HMS and HEC-RAS. Prerequisite: ENGR4254 Fluid Mechanics.

Spring

CENG3261

3 Credits

Estimating I

The development of a procedure (including check and balance) for preparing a quantity survey of materials, labor and equipment for both general and specialty contractors. Prerequisite: MATH1107 Precalculus or equivalent.

Fall

CENG3270

3 Credits

Environmental and Land-use Planning

Environmental laws and pollution, environmental-impact analysis, land-usage laws and economics will be covered. Prerequisite: ENGR1301 Engineering Practices, Graphics and Design.

Spring

CENG4241

3 Credits

Lecture/Laboratory 4 hours

Soil Mechanics

The mechanics of soil and rock masses as applied to construction, with emphasis on footing and pile foundations, retaining walls, bulkheads, fills, embankments and the control of landslides. Identification, classification and testing of the physical properties of soils.

Prerequisite: ENGR2228 Strength of Materials.

Fall

CENG4242

3 Credits

Foundations

Design of concrete and reinforced concrete footings and foundations and retaining walls.

Bearing, friction and combined pile, pile caps and sheet piling. Prerequisite: CENG4241 Soil Mechanics.

Spring

CENG4260

3 Credits

Contracts and Specifications

A study of codes and specifications required in engineering contracts. General contracts, sub-contracts, constructions management contracts. Contract law. Prerequisites: CENG1245 Construction Materials and Systems and ENGR2210 Technical Communications.

Spring

CENG4272

3 Credits

Lecture/Laboratory 4 hours

Advanced Steel Design

Design of a complete structural steel-frame building including beams, floors, columns and

connections; preparing design notes, structural drawings and shop drawings in accordance with codes, industry standards and AISC (American Institute of Steel Construction). LRFD (Load and Resistance Factor Design) method used.

Prerequisite: CENG3256 Steel Structures.

Spring

CENG4276

3 Credits

Advanced Concrete Design

Design of a complete reinforced concrete building including beams, girders, slabs, columns and footings; preparing set of design notes, structural drawings and shop drawings. All in accordance with codes, industry standards and ACI (American Concrete Institute). Prerequisite: CENG3257 Concrete Structures.

Spring

CENG4280

3 Credits

Finite Element Analysis

Formulation and assembly of finite-element matrices in one- and two-dimensional problems. Modeling and practical applications in truss, beam and frame structures, heat conduction and linear elasticity. Practice in the use of computer programs. Prerequisites: ENGR2228 Strength of Materials and MATH3220 Linear Algebra.

Spring

CENG4320

3 Credits

Transportation Engineering

Highway and urban transportation systems. Organizations and associations. Planning. Driver, vehicle, traffic and road alignment, sight distances. Intersection and interchange design. Drainage details. Earthwork: calculations of volumes. Materials for roads and surfaces, bearing qualities. Computer applications. Term and laboratory projects assigned. Prerequisites: CENG1205 Surveying I and CENG4241 Soil Mechanics.

Spring

CENG4321

3 Credits

Bridge Design

Loads. Maximum moments and shear in simple and continuous spans. Steel bridges: floor systems, concrete and steel floors. Beam and plate-girder bridges. Truss, concrete and prestressed concrete bridges. Railing design. Railroad bridges. Steel-plate-deck bridges, economic considerations. Box girders. Computer applications. Term project assigned. Prerequisite: CENG3250 Structural Analysis.

CENG4385

3 Credits

Senior Design Project

Students work on capstone design projects using the knowledge gained through past course work, following professional practice, applying

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design methodologies and exercising sound engineering judgment. Prerequisites: Senior standing and ENGR2210 Technical Communications.
Spring

Communication

School of Art and Media Studies

COMM1000

3 Credits

Digital Storytelling

This course explores the practice of reporting across media platforms. The instruction allows students to construct narratives using a mix of text, photography, audio, video and graphics. The course emphasizes development of multi-media offerings for online presentation.

COMM1101

3 Credits

Mass Media: Image, Sound and Text

The process and social effects of mass communication in historical and contemporary settings. The impacts of print media, such as newspapers, magazines and books, and electronic media, such as radio, movies, television and the internet, are examined.

COMM1105

3 Credits

Intercultural Communication

Focuses on cultures and subcultures as well as their impact on perception, communication and behavior. Explores similarities and differences between cultures and barriers to intercultural communication. Examines principles of and skills in effective communicating and intercultural settings.

COMM1106

3 Credits

Interpersonal Communication

Basic concepts of human communication; the observation and analysis of sending and receiving verbal and nonverbal messages.

COMM1131

3 Credits

History of Graphic Design and Illustration

A survey of visual communication systems from early global civilization through book and magazine illustration and poster and advertising art from the 19th century to the present. (Equivalent to ART1131 History of Graphic Design and Illustration.)

COMM1170

3 Credits

Advertising Design

Principles of design applied to commercial layouts. (Equivalent to ART1170 Advertising Design.)

COMM1174

3 Credits

Desktop Publishing

Fundamentals of layout, design and typography on the computer. Introduction to publishing on the computer using Quark Xpress®, Adobe® Illustrator® and Adobe® Photoshop®. (Equivalent to ART1174 Desktop Publishing I.)

COMM1175

3 Credits

Computer Animation I

Fundamentals of creating two- and three-dimensional animation from conception to final presentation on the computer. (Equivalent to ART2295 3D Computer Animation.)

COMM1177

3 Credits

Introduction to Digital Media

Fundamentals of using the computer as a drawing/painting medium. Digitizing, video imaging and manipulation of digital information to create visual art. (Equivalent to ART1177 Introduction to Digital Media.)

COMM1838

3 Credits

Elementary Digital Video

A hands-on class in the creation of short videos utilizing video download to digital files, nonlinear editing and post-production use on the computer. Students will make their own videos from concept to completion. (Equivalent to ART1838 Elementary Digital Video.)

COMM2025

3 Credits

Communication Theory

This course provides the beginning communication scholar with a solid grounding in communication theory, providing the basis for further learning and research in the field. The class will explore the evolution of the discipline since its emergence in the 20th century and explore the major theories and approaches to the study of communication in the historical and cultural context in which they emerged and developed. The course will connect theory to practice.

COMM2101

3 Credits

Professional Communication

Study of and practice in major oral and written communications techniques and modes appropriate to professional communicators and others. Emphasis on group dynamics, collaborative presentations, research, audience analysis, effective writing and speaking styles. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2102

3 Credits

International Communication

This course discusses issues such as images of foreign countries, (mis)understanding of different cultures, the flow of information and cultural invasion/imperialism. By taking this course, students will (1) gain a better understanding of the relationship between international communication and globalization, (2) grasp the role mass media play in global communication and (3) enhance critical awareness of problems mass media pose. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2103

3 Credits

Culture and Communication in Film

The course will discuss domestic and foreign films that analyze (1) the ways that they present similarities and differences between cultures, (2) how different cultures influence people to interact differently in the same/similar situations, (3) how and in what ways filmmakers are constrained by but also display their culture while amusing and persuading audiences and (4) what functions films perform in global communication. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2104

3 Credits

Language, Culture and Communication

Language and its relationship to culture and communication. The nature and function of language at the conceptual, syntactic, semantic and pragmatic levels. How a language shapes the characteristics of a culture and how the culture determines the features of its language. The impact of language on (mis)understanding in intercultural/international interactions. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2204

3 Credits

Understanding Human Communication

An introduction to a wide range of theories and research about effective communication in contexts such as friendship, small groups and organizations. Special emphasis on interpersonal and intercultural communication issues. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2210

3 Credits

Popular Culture and the Media

Investigation of the interrelationships of the mass media and popular culture, analyzing the ways in which mass media mirror and affect popular culture.

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COMM2211

3 Credits

Mental Health Issues and the Media

This course will identify and evaluate common, media-promoted perceptions of mental health, addressing how images perpetuated by film, print and broadcast media influence families, the health care industry, the political establishment and others responsible for the wellness of individuals with mental illness. The course is suitable for nursing and psychology majors, as well as communication majors and others interested in media or mental-health concerns.

COMM2215

3 Credits

Photoshop® for Advertisement and Illustration

The use of Photoshop® in the creation and manipulation of digital artwork for editorials and advertising in print media. Student projects are modeled after real-world commercial assignments.

COMM2272

3 Credits

Layout and Typography

Layout techniques. Principles of typography. Copy-fitting for advertising.

COMM2321

3 Credits

Advertising Principles

Study of the role of advertising in the marketing mix, concepts and methods used in the setting of advertising goals, budgeting, planning and implementation of a creative strategy, considerations of media and evaluation of campaign plans. Economic, social, legal and ethical issues of advertising are discussed.

COMM2415

3 Credits

Sports and Popular Culture

The significance of sports' contributions to popular culture during the 20th and 21st centuries. The primary focus will be on the United States, but contemporary globalization will also be considered. The primary mode of inquiry will be through discussions that examine sports in a variety of cultural forms including, but not limited to, literature, film, television, advertising, cartoons, the internet and music. Prerequisites: ENWR1001 Composition I: Rhetoric and Inquiry and ENWR1002 Composition II: Research and Argument.

COMM2443

3 Credits

Ethics in Media

Ethics in the print and broadcast media, using current newspaper articles and news programs as resources. Students participate in the decision-making process of reviewing and selecting information for mass audiences. Emphasis on class discussions.

COMM2557

3 Credits

Radio Broadcast Workshop

Radio station operations. Selection and editing of news and musical materials, including practical assignments.

COMM2558

3 Credits

Basic Radio Station Engineering

Practicum in broadcast audio equipment theory, wiring, operation, studio design, construction and maintenance. Emphasis on the current digital revolution in broadcasting with areas of discussion including the digital production studio, editing tools, the on-air studio and HD digital radio transmission (both conventional and satellite).

COMM2648

3 Credits

Basic Video Editing

Introductory video/audio editing techniques, procedures and theory. A hands-on approach utilizing the AVID nonlinear video-editing equipment to edit video projects. Corequisite: COMM2649 Basic Video Editing Laboratory. (Equivalent to ART2648 Basic Video Editing.)

COMM2649

0 Credits

Basic Video Editing Laboratory

Video/audio editing with the professional AVID digital nonlinear editing system. These labs will emphasize a hands-on approach in the editing of video projects. Corequisite: COMM2648 Basic Video Editing.

COMM2659

3 Credits

Broadcast News

Writing and rewriting news for radio and television broadcast. A studio course. Prerequisite: COMM2833 News Reporting.

COMM2673

3 Credits

Basic Video Production

Classroom and hands-on field production course introducing students to the principles and practices of video/digital production and postproduction. This includes camera shooting and digital video editing (with AVID) of video projects. (Equivalent to ART2673 Basic Video Production.)

Fee

COMM2685

3 Credits

Scriptwriting for Television, Film and Audio Visuals

Preparation of concepts, treatments and scripts suitable for production. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2743

3 Credits

History of Film: Special Topics

Selected topic: intensive study of one particular aspect of film history such as directors, studios or genres. May be repeated, but student may not repeat a topic. Prerequisite: ENWR1002 Composition II: Research and Argument.

Fee

COMM2745

3 Credits

Introduction to Film

The art of the motion picture, using selected films, and including screenwriting, camera, performance, music and sound, editing and the roles of producer and director.

Fee

COMM2833

3 Credits

News Reporting

Evaluation of news and news-gathering methods. Study of various types of stories in the press. Practice in newswriting. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM2835

3 Credits

Feature Article Writing

Recognizing, reporting, writing and editing quality feature stories, based on sound journalistic practice and drawing from contemporary and classic examples. Prerequisite: ENWR1002 Composition II: Research and Argument.

Fee

COMM2851

3 Credits

Photojournalism: Technique, Theory and History

Emphasis on weekly student photography assignments in the style of a photojournalist. Students will shoot and modify/print weekly shooting assignments. Professional photojournalistic techniques and procedures will be stressed. Photojournalistic theory and history will complement the hands-on assignments. Note: Students must own or have access to a digital camera with a zoom lens or a 35mm film camera with zoom or set of prime lenses as well as photo-editing software such as Adobe Photoshop/Adobe Photoshop Elements, Adobe Photo-Deluxe or Corel Paint Shop Photo Album 5 Deluxe.

COMM3101

3 Credits

Investigating Communication: Research Methods

An introduction to the research procedures and techniques used in such fields as advertising and journalism. Emphasis on understanding the rationale for survey, experimental and ethnographic research methods.

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COMM3102

3 Credits

Media, History and Society

The relationship of media to history and society: how media shapes culture, leads to social change and affects human history. An interdisciplinary approach that includes philosophy, history, sociology, linguistics, semiotics, art, education, communications and cultural studies.

COMM3216

3 Credits

Myth, Symbol and Media

The ways in which words, pictures, symbols and myths affect communication.

COMM3295

3 Credits

Theories of the Press

Survey of relationships between the freedom of speech and press, and the right to know (in terms of contemporary theories of the press). Prerequisite: COMM1101 Mass Media: Image, Sound and Text or permission of instructor.

COMM3324

3 Credits

Intercultural Communication in the Global Workplace

This course offers students the solid theoretical foundation they need and an engaging writing style peppered with examples culled from the personal experience of living and working abroad. The course zeroes in on the specific needs of a firm — from broad cultural and business values to the influence of culture on negotiations and the structure of the firm. Part of the course focuses on applying cultural concepts to real-life situations. It also emphasizes teamwork in intercultural groups. Legal issues in intercultural business communication are covered extensively. The first part of the course contains detailed discussion of cultural values that influence intercultural business communication.

COMM3345

3 Credits

Advertising Copywriting and Layout

Study of the creative functions of advertising in print and broadcast. Students develop advertisements, including all visual and verbal elements, to develop creative ability and critical judgment. Prerequisite: COMM2321 Advertising Principles.

COMM3346

3 Credits

Advertising Media Strategies

Evaluation, selection and characteristics of mass media as used in advertising channel strategies. Media comparisons and cost calculations. Matching media audiences with target markets and groups. Prerequisite: COMM2321 Advertising Principles.

COMM3348

3 Credits

Broadcast Advertising

A practical and informative course describing the various aspects of the television advertising business (programming, sales, rating, negotiations) with special emphasis on network television. Prerequisite: COMM2321 Advertising Principles or permission of director.

COMM3360

3 Credits

Digital Audio Editing

Radio and television station and network operations, with emphasis on business considerations, roles and functions of various positions; practical work in campus radio and television facilities.

COMM3362

3 Credits

Advertising Campaigns

Analysis of case-history studies of advertising campaigns. Preparation of an actual campaign. Prerequisite: COMM2321 Advertising Principles.

COMM3431

3 Credits

Sports Information Writing

Examination of and practical exercises in sports information writing: gathering news and writing basic sports stories and press releases; designing and writing brochures and other publicity material; interviewing techniques; information sources and outlets; setting up and operating “gameday” activities.

COMM3432

3 Credits

Sports Journalism

This course is concerned with the news and feature writing of sports events, including reportorial skills, photography and opinion writing. Attention given also to public relations and promotion of sports and sports events.

COMM3444

3 Credits

Public Relations

An introduction to the purposes and practices of public relations and its role in administration and in society. The essentials of different activities in public relations and various media are studied, basic skills are taught and applications are made to case studies.

COMM3500

3 Credits

Senior Communication Seminar

The capstone course that brings together the various areas — media theory, advertising, public relations, film, broadcasting and journalism — that make up the field of communication. Required of all communication majors. Prerequisite: upper-division standing (a minimum of 64 credits earned).

COMM3558

3 Credits

Advanced Radio Broadcast Workshop

Refinement of on-air performance and procedures, conducted at WFDU (FM). Permission of department required. Prerequisite: COMM2557 Radio Broadcast Workshop.

COMM3665

3 Credits

International News: The Views Beyond Our Borders

Analyzing the way news is reported and covered in countries outside the United States and how they shape world news and the image of the United States. Prerequisite: ENWR1002 Composition II: Research and Argument.

COMM3666

3 Credits

Television Around the World

Intensive examination of the use of world television to inform, to mold opinion and to affect attitudes toward government and institutions.

COMM3668

3 Credits

Television News: The Big Issues

Television's coverage of the major social, economic, political and philosophical issues of our times.

COMM3675

3 Credits

Advanced Video Production

The study of video/digital preproduction, production and postproduction with an emphasis on professional techniques, procedures and theory. The course requires students to shoot and edit independent projects. Students are encouraged to produce a portfolio/reel for future professional endeavors. Prerequisite: COMM2675 Basic Video Production. (Equivalent to ART3675 Advanced Video Production.)

Fee

COMM3748

3 Credits

Video Moviemaking

Basic video moviemaking. Independent student projects emphasizing preproduction (planning), production (camera shooting) and postproduction (nonlinear digital editing with AVID). Prerequisite: COMM2675 Basic Video Production.

Fee

COMM3749

3 Credits

Advanced Video Editing

A project-orientated, hands-on course that emphasizes enhanced editing techniques, procedures and theory with the AVID digital

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nonlinear editing system. Editing projects are produced by the students through self-produced video camera shoots, graphic media and audio media. Students are encouraged to add these projects to their portfolios/reels. Prerequisite: COMM2648 Basic Video Editing. (Equivalent to ART3749 Advanced Video Editing.)

COMM3801

3 Credits

Community, Computers and Cyberspace

Impact of computers and communication technology on individuals, communities and societies.

COMM3854

3 Credits

Advanced News Reporting

Additional emphasis given to practical assignments. Prerequisite: COMM2833 News Reporting.

COMM3855

3 Credits

Advanced Journalism

News gathering, interviewing, preparation of copy and critical story analysis. Prerequisite: COMM2833 News Reporting.

COMM3997, COMM3998

1–3 Credits

Internship in Communication

Consult with department for further information. Prerequisites: upper-division standing and permission of school director. Maximum 6 credits for all internships.

COMM3999

1–3 Credits

Internship: Equinox

Practical work on student newspaper or yearbook. Consult the school for further information. Maximum 6 credits for all internships. Prerequisites: upper-division standing, permission of school director and COMM2521 Advertising Principles or COMM2833 News Reporting.

COMM4468

3 Credits

Bollywood and Beyond: India in Film

As India responded to major cultural and technological shifts during the 20th century, Bollywood was crucial to the creation and reinforcement of the nation's changing images of itself and its people. This study of Indian film reflects these changes and looks at the ways that cultural identities are shaped with reference to popular art, technology, history and contemporary politics. (Equivalent to HUMN4468 Bollywood and Beyond: India in Film.)

COMM4470

3 Credits

The Television Newsroom

The inner workings of the television newsroom: operations, structure, personnel and crew. This approach is used in conjunction with an in-depth study of TV news field reporting. Students will produce, shoot and edit on-the-scene news stories using professional broadcast techniques and procedures.

COMM4800

1–3 Credits

Independent Study in Communication

Independent study under the direction of a specific faculty member. Prerequisites: upper-division standing and approval of school director.

COMM4930, COMM4932–COMM4970

1–3 Credits

Selected Studies in Communications (Sports Ethics and Leadership, Communication and Sport)

Studies in an area of communications.

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School of Computer Sciences and Engineering*

CSCI1105

3 Credits

Survey of Computers and Computer Software

History of computers, hardware and software systems, files and databases, algorithms, personal computers, computer communications and networking, computers and society: applications, issues and responsibilities. (No credit for computer science majors.)

CSCI1110

3 Credits

Visual Basic

The visual basic (VB) programming environment, projects, forms, VBX controls, modules and DLLs. Language Building Blocks, Setting properties, using methods and programming events. Writing code for subroutines and functions. Working object variables. MDIs child forms. Controlling the Windows environment through the API. Accessing and reporting on databases with the data control. Prerequisite: working knowledge of Windows.

CSCI1201

3 Credits

5 Contact Hours

Computer Programming I

Elements of algorithm design and problem solving. Elementary data types and arrays. Basic

control structures: sequential, conditional, iterative. Assignment statements. Basic input/output. Elements of methods. Design, coding and implementation of programs in various areas using a language such as Java. (Equivalent to INFO2101 Computer Programming for Information Technologists I.)

Fall, Spring

CSCI1202

3 Credits

5 Contact Hours

Computer Programming II

Stepwise refinement as a programming tool. Objects and classes. Inheritance and polymorphism. Character string manipulation. Advanced input/output. Elements of debugging and testing. Design, coding and implementation of programs in various areas using a language such as Java. Prerequisite: grade of C or better in either CSCI1201 Computer Programming I or INFO2101 Computer Programming for Information Technologists I. (Equivalent to INFO2102 Computer Programming for Information Technologists II.)

Fall, Spring

CSCI2215

3 Credits

Introduction to Computer Science

Introduction to computer hardware and software, their interaction and trade-offs. Essentials of computer organization and arithmetic, assemblers, I/O devices, operating systems, databases and files. Basic ideas in the areas of computer networks, system organization and computer theory. Foundation for more advanced courses. Prerequisite: elementary knowledge of a programming language.

Fall, Spring

CSCI2252

3 Credits

Data Structures

Implementation of abstract data types used in computer science. Arrays, character strings, stacks, queues, one-way and two-way linked lists, trees, graphs and file structures. Searching, sorting, storage management, structure and selection. Prerequisite: a grade of C or better in CSCI1202 Computer Programming II or INFO2102 Computer Programming for Information Technologists II.

Fall, Spring

CSCI2255

3 Credits

Survey of Computing Security

This course surveys various topics in the emerging field of computing and information security. The field is ever changing and is of national importance. Topics include first principles of security, access control, security policies, file permissions and security, system monitoring, authentication methods, encryption techniques,

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networking, gateways and firewalls and security management. Students will be able to identify different methods and tools appropriate for cyber defense. Prerequisite: CSCI1201 Computer Programming I.

CSCI2243

3 Credits

Statistical Programming

This is an in-lab SAS programming course, including importing and exporting files, predictive-data modeling and exploration (mixed-models analyses, multivariate statistical analysis, longitudinal analysis and survival analysis) and a programming approach to report writing. Prerequisites: MATH1105 College Algebra and elementary knowledge of a programming language.

CSCI2247

3 Credits

Assembly Language Programming

Assembly language in relation to computer architecture. Programming in assembly language of a particular computer. Numerical and symbolic applications. Input/output programming. Assembly systems: assemblers, loaders and linkers. Macros. Prerequisites: CSCI1202 Computer Programming II and CSCI2215 Introduction to Computer Science.

Fall, Spring

CSCI3240

3 Credits

Computer Networks

Introduction to the theory and practice of computer networking. Protocol design and analysis. Topics include layered protocol architectures, packet and circuit switching, multiplexing, routing, congestion and flow control, error control, sequencing, addressing and performance analysis. Examples from current data networks. Prerequisite: CSCI2215 Introduction to Computer Science. Corequisite: MATH2255 Discrete Structures or permission of instructor.

CSCI3246

3 Credits

Wireless LANS

Introduction to wireless LANS and their technology and use. Topics include design, installation, troubleshooting, security and 802.11 frames. Prerequisite or corequisite: CSCI3240 Computer Networks.

CSCI3249

3 Credits

Computer Organization

Introduction to computer architecture: instruction sets, data types and addressing modes. Design of control unit of CPU; microprogramming; memory hierarchies; registers, caches, main, secondary and archival memories. Input/output functions and control. Introduction to arithmetic-logic unit. Prerequisite: CSCI2247 Assembly Language Programming.

CSCI3251

3 Credits

Design of Software Systems

Systems-development life cycle: requirements analysis, system design, system implementation, software testing and maintenance. Program documentation. Team projects. Prerequisite: CSCI2232 Data Structures.

Spring

CSCI3255

3 Credits

Mathematical Foundations of Computer Science

Discrete mathematics: sets, relations, algebras, graph theory, Boolean algebra, mathematical induction. Grammars and languages. Automata theory: finite and pushdown automata. Turing machines. Computability and the halting problem. Decidability. Prerequisite: MATH2255 Discrete Structures.

CSCI3268

3 Credits

Database Systems

Overview of the function and architecture of database systems. Study of storage structures and their implementation. Survey of the current types of data models with emphasis on relational databases. Examples of data definition and data manipulation languages. Specific database management systems will be studied to support the database concepts. Prerequisites: CSCI1201 Computer Programming I and CSCI2215 Introduction to Computer Science or permission of instructor.

CSCI3274

3 Credits

Linux System Administration

The course introduces the concepts of system administration as they apply to the Linux operating system. Topics include operating-system concepts; directories and file systems; users, groups and permissions; Linux and Windows; bash shell and editing; regular expressions and scripting processes and services; network, network software and the internet; and database security and installation. Students will be able to install and maintain Linux-based computing systems in the lab. Integrated laboratory experience. Corequisite: CSCI3268 Database Systems.

CSCI3278

3 Credits

Operating Systems

Operating system as machine virtualizer and resource manager. Management of parallel processes. Main memory management; virtual memory. Process management. Secondary storage management. Performance measurement. System security. Prerequisite: CSCI2247 Assembly Language Programming. (Equivalent to INFO4278 Operating Systems.)

CSCI3314

3 Credits

Mobile Application Development

Introduction to application development for mobile platforms using Android. Topics include graphic user interface design with Android Development Tools; Android's API for video, audio, graphic and animation; touch-screen handling; and fundamentals of game development. Prerequisite: CSCI1202 Computer Programming II.

CSCI3317

3 Credits

Computer Game Programming

Introduction to computer game development. Topics include fundamentals of Microsoft DirectX® game and graphics libraries, 2D graphics and animation, audio output, keyboard/mouse handling and fundamentals of 3D modeling and programming. Prerequisite: CSCI1202 Computer Programming II.

CSCI3318

3 Credits

Cloud Computing

This course provides a comprehensive introduction to cloud computing. Topics include cloud-computing models and technologies, IaaS, PaaS, SaaS, security and privacy issue. Hands-on projects include the use of cloud services, such as Amazon Web services and Google APP Engine.

CSCI3320

3 Credits

Introduction to Computer Simulation

Systems and models; classifications of simulation types. An introduction to continuous simulation, discrete simulation, simulation languages and games. Prerequisites: proficiency in a programming language and MATH2202 Calculus II.

CSCI3331

3 Credits

Advanced Database

Study of database recovery, reorganization, performance and space management. Issues of integrity, transaction processing, concurrency and logical and physical database design. Prerequisite: CSCI3268 Database Systems.

CSCI3338

3 Credits

Advanced Oracle SQL Performance and Tuning

Performance measurement and tuning of Oracle SQL applications. Analysis of Oracle database architecture with regard to optimizer modes. Interaction of SQL language and database engine. Prerequisite: CSCI3268 Database Systems.

CSCI3339

3 Credits

Voice-over IP Technologies

This course gives an introduction of voice-over IP technologies. Topics include the Public

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Switched Telephone Network (PSTN), signalling specifications, modulation and compression of voice, Quality of Service (QoS), H.323 architecture and protocol suite, Session Initiation Protocol (SIP), gateway protocols and voice and data network convergence. Prerequisite: CSCI3240 Computer Networks.

CSCI3540

3 Credits

Advanced Switching and Internet Routing

This course focuses on advanced switching and internet routing protocols. Topics include switch design and operation, VLANs, port security 802.1x, trunking, port aggregation, high availability and redundant switched network design, advanced IP addressing architectures, routing algorithm concepts and routing protocols: RIP, OSPF, BGP, multicasting, protocol tunneling and routing security. Prerequisite: CSCI3240 Computer Networks. *FDU NetID (formerly Webmail) account required.*

CSCI3542

3 Credits

Client-server Computing

An introduction to the theory and technology of client-server computing. General software architecture and component-based software system development, n-tier architecture, sockets, Remote Procedure Call (RPC), JAVA Remote Method Invocation (RMI), Common Object Request Broker Architecture (CORBA), Component Object Model (COM)/Distributed COM (DCOM) and their applications. Prerequisite: CSCI2252 Data Structures.

CSCI3545

3 Credits

Firewalls and Intrusion Detection Systems

This course covers the theoretical and practical aspects of firewalls and intrusion detection systems. Some aspects of VPNs and routers also will be covered. Prerequisites: CSCI3240 Computer Networks, CSCI3278 Operating Systems or permission of instructor.

CSCI3550

3 Credits

SAS-I

Based on commercial software SAS, this course is a foundation for writing SAS programs to accomplish data processing and statistical analysis. Topics include reading raw data files, SAS data sets, subsetting data; combining multiple SAS files; creating SAS variables and recoding data values; and creating and linking HTML and summary reports. Prerequisites: knowledge of a high-level programming language and basic knowledge of statistics.

CSCI3560

3 Credits

Software Reuse

Retrieving and integrating library units (code, documentation, etc.) into the design of reusable software systems. Creating reusable assets for incorporation into a software library. Programming in Ada 9x or another object-oriented language. Programming projects are assigned. Prerequisite: CSCI2252 Data Structures.

CSCI3575

3 Credits

Concepts of Programming Languages

Fundamental concepts underlying different paradigms of programming languages. Syntactic and semantic aspects, including attribute binding, storage management, control and data abstraction. Programming in various languages. Prerequisite: CSCI2252 Data Structures.

CSCI3580

3 Credits

UNIX Shell Programming

To enable students to derive maximum benefits from using shells. The course will cover shells for the novice, shells programming for results and shells programming for mastery. The skills to create whole applications together with the steps into the world of software developers and systems administrators. Prerequisite: CSCI2215 Introduction to Computer Science.

CSCI3581

3 Credits

Compiler Theory

Formal languages, grammar, Backus-Naur Form. Scanners. Top-down and bottom-up parsers. Storage organization. Polish notation. Code generation and optimization. Prerequisite: CSCI3251 Design of Software Systems.

CSCI3585

3 Credits

Artificial Intelligence

A general introduction to the ideas and methods that enable computers to be intelligent. Topics include search algorithms, expert systems, natural language processing, methods of knowledge representation and machine learning. Programming projects. Prerequisite: CSCI2252 Data Structures.

CSCI3591

3 Credits

Network and Information Security

Coverage of potential threats to a stand-alone or networked computer. The course includes strategies to harden the system against these threats and discusses the liability of the network administrator for crimes committed via the network. Business issues considered include social engineering, continuity, data backup and recovery and risk analysis. Prerequisite: CSCI3240 Computer Networks or EENG4542 Data Communications and Computer Networks or

INFO4101 Data Communications and Computer Networks I. (Equivalent to INFO4891 Network and Information Security.)

CSCI3410

3 Credits

Foundations of Cybersecurity

The topic of Information Assurance and Security (IAS) has become of increasing importance as computer systems are being subjected to continuous and more sophisticated attacks. This course presents an introduction to the application and management of mechanisms for cybersecurity and information assurance in computing, communication and organizational systems. Topics covered include malware and social engineering, vulnerability assessments, network security, authentication, basic cryptography and risk analysis. Prerequisite: CSCI3240 Computer Networks or EENG4542 Data Communication and Computer Networks or INFO4101 Data Communications and Computer Networks I. (Equivalent to INFO4410 Foundations of Cybersecurity.)

CSCI3420

3 Credits

Cryptography

Cryptographic techniques are chief mechanisms for protecting the security services of confidentiality and integrity. This course covers cryptographic primitives, including secret and public key encryption, cryptographic hash functions, digital envelopes and the key distribution problem. Prerequisite: CSCI3410 Foundations of Cybersecurity or INFO4410 Foundations of Cybersecurity.

CSCI3444

3 Credits

Programming for the Internet

This course introduces students to the fundamentals of Microsoft.NET framework, the ASP.NET development environment and C# programming. It also covers XML web services, SQL Server database and Microsoft web server IIS (Internet Information Services). Students study how to develop powerful websites and web applications that access databases using dynamic, server-side programming in C#. They also learn how to deploy such applications over various servers. Prerequisite: CSCI3268 Database Systems. (Equivalent to INFO4844 Programming for the Internet.)

CSCI3460

3 Credits

Data Warehouse and Data Mining

Students will study the fundamentals of the data warehouse, including architecture and decision making. Techniques like online analytical processes and data mining will also be studied. Tools and techniques to help make business decisions will also be covered. Prerequisite: CSCI3268 Database Systems.

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CSCI3470

3 Credits

Enterprise Computing for the IBM zSeries

Students will study the software, architecture, security, network capabilities and data management of the IBM zSeries computers. There will also be a fundamental study of DB2 and the zSeries control language. Prerequisites: CSCI1202 Computer Programming II and CSCI2215 Introduction to Computer Science.

CSCI3783

3 Credits

Information Security

This course will study the important area of information security. It will cover both security management and the technical components of security. Topics will include many of these areas: security analysis, logical security design, physical security design, implementation of security systems and security maintenance. Prerequisite: CSCI3268 Database Systems.

CSCI4050

3 Credits Each Semester

Current Topics in Computer Science

Topics selected from recent advances in computer science. Content to vary from year to year. Prerequisite: permission of the instructor.

CSCI4373

3 Credits

Distributed Database Systems

Theory of distributed databases and comparison to centralized databases. Methodologies to provide transparent access to and updating of local databases. Study of global locking and deadlocking strategies. Prerequisite: CSCI3268 Database Systems.

CSCI4380

3 Credits

Systems Development with Java

This course introduces students to advanced Java programming and how object-oriented systems development is realized in Java language. The topics covered include graphical user interface (GUI) design and programming, Java Swing Components, graphics, exception handling, multithreading, Java database connectivity (JDBC), Java networking programming, remote method invocation (RMI), Java Servlets and Java Server Pages (JSP). It also exposes students to the applications of entity objects, boundary objects and control objects in programming. It enables students to do programming in database, networking, windows, multithreading and the web development using Java. Prerequisites: CSCI3251 Design of Software Systems and CSCI3268 Database Systems.

CSCI4475, CSCI4476

Variable Credits

Honors Computer Science

Independent study in computer science for students in the University Honors Program under

the direction of a faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

CSCI4498, CSCI4499

3 Credits Each Semester

Co-op in Computer Science

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills. Prerequisite: permission of director of co-op.

CSCI4800

1–6 Credits Each Semester

Independent Study in Computer Science

Independent study under the direction of a faculty member after consultation with the school director.

Graduate Courses

Students may take selected graduate courses in computer science with the permission of the instructor and the school director.

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CRIM1101

3 Credits

Introduction to Criminal Justice

This course provides a comprehensive overview of the United States criminal justice system. In context to the philosophical underpinnings of the U.S. Constitution and the historical, social and political development of the United States, this course will examine the three major components of the criminal justice system: (1) police and law enforcement, (2) the court and adjudications and (3) corrections. The framework of the course revolves around the concepts of social order and control; theories of criminality; the legislation, enforcement and adjudication of criminal laws; the remediation of criminal behavior; and the influence of public policy in the administration of justice.

CRIM1102

3 Credits

Criminology and Social Theory

This course examines the theoretical perspectives on the nature and causes of crime, criminal behavior and criminality. Topics include the nature of law, types of crimes, deviancy, crime statistics, crime-prevention strategies and issues

in the administration of justice. It will examine the biological, psychological and sociological theories of crime causation.

CRIM1103

3 Credits

Criminal Law

The objective of this course is to provide the student with the general principles of criminal law as a whole, in contrast to the specific definition of crimes (which vary from jurisdiction to jurisdiction). These general principles will be applied to: 1) classify and understand the varied elements of specific crimes; 2) formulate the bases for specific crimes that prosecutors must prove; 3) touch upon constitutional requirements; and 4) understand the recognized defenses to justify or explain alleged criminal conduct.

CRIM1112

3 Credits

Minorities, Women and the Criminal Justice System

This course examines the history and experiences of minorities within the criminal justice system. An examination of how each component of the criminal justice system relates and responds to minorities and women in the capacity of defendants, victims, citizens and public employees. Specific attention will be directed to constitutional protections and matters of discrimination, differential treatment, recent court decisions and the future of women and minorities in the criminal justice system.

CRIM1120

3 Credits

Introduction to Jurisprudence

Jurisprudence is the study of legal theory and the practical application of the law. The approach to this class is twofold: (1) to make the student aware of the history and nature of the law and the major philosophical approaches to the study and practice of law (a "classic" intellectual examination of jurisprudence); and (2) to critically apply those philosophies to the practice of law. The class will examine the tenets of criminal law, contract law, civil and criminal procedure, torts, property law and family law. Those principles will be practically applied by the student in order to gain insight into the function of the law as practiced in courts today.

CRIM1125

3 Credits

Introduction to Social Service Advocacy

This course introduces students to the fundamental concepts and theories of social service advocacy and social work and explores the practical implication of these on organizations, communities, groups, families and individuals (the client). The course is centered on three major components of social-work practice: 1) inequality and social justice, 2) social welfare policy and 3) social practice methods. The course will also

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explore human behavior and development as well as needs and services within the legal and organizational context of the discipline.
(Equivalent to PSYC1125 Introduction to Social Service Advocacy.)

CRIM1130 **3 Credits**

Working with Children and Families

This course is designed to prepare students with the knowledge, skills and ethics for effective practice in the field of child and family welfare. The course will explore the history, evolution and current status of child-welfare policies, the service continuum provided to families and children and the sociocultural context of child-welfare practice. Empowerment and strengths-based perspectives will form the theoretical framework for practice skills. An emphasis will be placed on understanding public policies that support the basic needs of families as well as policies governing the child-welfare system and selected policies governing juvenile justice, adult criminal justice, mental health and educational systems.

CRIM1135 **3 Credits**

Social Justice and Structural Inequality

This course will examine the intersections of inequality as it relates to race, class, sexuality and gender and how they intersect with social justice advocacy and social institutions. Students will be introduced to specific problems and their connection to broader theoretical and policy implications.

CRIM1700 **3 Credits**

Introduction to Security Operations

Beginning with the historical development of private security, this course provides a conceptual overview of the security industry to include crime control, loss-and-risk prevention, asset protection, physical and electronic security and the use of integrated technologies. Specifics include personnel and physical security, barriers, protective lighting, locking mechanisms, Intrusion Detection Systems (IDS), access/entry control, Closed Circuit Television Systems (CCTV) and Crime Prevention through Environmental Design (CPEd).

CRIM2100 **3 Credits**

Professional and Legal Writing

This course is designed to prepare students for the characteristic style and format of writing letters and reports within the various professions of the criminal justice system. Emphasis will be on developing cogent, analytical and legally sustainable documents with particular attention to format, structure, grammar and literary style. This course meets the requirements of the law-school preparation curriculum. Prerequisite:

ENWR1002 Composition II: Research and Argument.

CRIM2201 **3 Credits**

Police and Society

The objective of this course is to provide the student with a comprehensive understanding of the role, responsibility and interdependent relationship of the police and law enforcement within American society. Inherent to the responsibility for maintaining order and public safety, enforcing society's laws, preventing crime and providing social-related services, there exists dichotomy, controversy and challenges. Beginning with a historical perspective, contemporary policing will be examined from a variety of operational, managerial and administrative perspectives taking into consideration the many social, cultural, legal, political, economic and technological changes that influence a free, democratic and capitalistic society.

CRIM2202 **3 Credits**

Corrections, Parole and Probation

This course encompasses an analysis of formal institutions involved in the correction, punishment and rehabilitation of criminal offenders. Topics include the prison as a sociocultural system, the efficacy of penal institutions and the emergence of alternative systems of punishment and control. In addition, the course will examine the functions of probation, parole and community corrections within the context of the rehabilitative, crime prevention and reintegration models.

CRIM2204 **3 Credits**

Juvenile Justice and Delinquency

The objective of this course is to offer the student a comprehensive overview of juvenile delinquency and its impact on society. It will examine the demands that delinquency places on schools, police, the courts, corrections and the community. Attention will focus on the history, trends, patterns and extent of delinquency, along with the role gangs, family, peers, gender and schools play in its development. The impact of the police, the courts and juvenile corrections on reducing juvenile delinquency will also be examined.

CRIM2205 **3 Credits**

Criminal Justice Research Methods

An introduction to research design and methodology within the frame of criminal justice studies. Hypothesis development, experimental design, surveys, testing and the gathering and presentation of information are covered. Participants will develop facility in using the library's online database. Students will critically analyze theoretical materials and review bibliographic information. Using written assignments, partici-

pants will be expected to hone their logical, analytical and grammatical skills.

CRIM2206 **3 Credits**

Criminal Investigation

An examination of the legal and procedural aspects of conducting a criminal investigation as part of the process of determining the facts of a crime and the identification of the victims, witnesses and perpetrators. Crime-scene sketching; photography; video; fingerprinting; evidence collection; interviewing and interrogation; ballistics; forensic examination; voice, retina and DNA analysis; and other contemporary technologies and applications will be explored.

CRIM2207 **3 Credits**

Community Policing

A general examination of the evolution of policing, public and community relations, including the role of police in their interactions with offenders and victims, community-police projects and programs and community-crime prevention. Specific attention will be directed to the importance of problem solving, developing comprehensive community partnerships and facilitating organizational changes within police agencies.

CRIM2208 **3 Credits**

Victimology

This course will focus on the criminal event from both the perspective of the victim and the motive of the offender. It will examine victimization patterns, typologies, lifestyles, causal factors, consequences and analyze the criminal justice system's procedures, treatment and resources for crime victims. It also will utilize numerous case scenarios and analyze the dynamics of various violent crimes for warning signs, criminal purpose/selection and strategies for individuals to reduce their risk of becoming crime victims.

CRIM2211 **3 Credits**

School and Workplace Violence

This course will examine the nature, types, extent and causes of and responses to school and workplace violence. It will consider related issues such as the origins of anger, the work/school climate, victim culpability and offender risk factors. Strategies to prevent and de-escalate violence and manage conflict will also be examined.

CRIM2212 **3 Credits**

Terrorism, Intelligence and Justice

This course aims to offer the student a comprehensive overview of terrorism and its impact on humanity. It will also examine the demand that terrorism places on governments, particularly

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the military and law enforcement. Particular attention will be focused on the history of terrorism and its impact on modern-day society both in the United States and abroad. Students will also examine the ever-changing training and preparedness that the criminal justice system must continually engage in. The class will study and discuss other issues that governments must address in their efforts to remain prepared to respond to the horrific devastation that potentially may occur as a result of terrorist actions.

CRIM2214 3 Credits

Criminal Procedure Law

The objective of this course is to provide the students with the general principles of criminal procedure law as a whole, and how the United States Constitution's guarantees of the rights of individuals to life, liberty, privacy and property are balanced against the government's power to enforce criminal law. The course will critically examine the application of these principles to real problems, specifically: 1) an individual's right to due process of the law; 2) the balancing of the end result versus the process by which that end is achieved; 3) the requirements which must be met before there is a lawful invasion of privacy by the government; and 4) remedies for constitutional violations.

CRIM2215 3 Credits

Crime and Forensics

This course examines the philosophical considerations of the integration of forensic science disciplines with criminal investigation. It will encompass an overview of crime scenes, physical evidence and the examination of the major forensic subdisciplines of pathology, toxicology, odontology, anthropology, art, firearms, tool marks, criminalistics, serology, DNA and questioned documents.

CRIM2216 3 Credits

Sex, Deviance and the Law

This course will examine the causes and treatments of sexual offenders, beginning with an exploration of the historical perspectives of sexual behaviors, the etiology of sexual deviant behavior, the cycle of offending, types and typologies of sexual offenses, juvenile offenders and victims. The course will also examine policy implications of research outcomes, responses to assessment and treatment of sexual offenders, the management of sexual offenders in the community and the future direction of research of sexual offenders.

CRIM2218 3 Credits

Computer Technologies and Cyber Crime

This course introduces students to the use and application of computer, digital and information

technologies within the fields of criminal justice and security. Topics will examine the use of computer and related technologies in committing crimes and conducting criminal investigations, including intelligence gathering, crime-mapping and analysis, predictions, biometric and biological (DNA) identification and personnel management and administration. It will also examine the motives of the cyber offender, the forensic analysis of a computer to assist in the development of a suspect's psychological profile, the role of computer forensics in investigations and the protection and processing of digital data and computer crime scenes.

CRIM2250 3 Credits

The Death Penalty

This course will examine the historical basis of capital punishment, leading up to its practical application today in the United States and in selected countries throughout the world. Students will be exposed to arguments for and against the death penalty and will be encouraged to critically assess their own feelings toward the ultimate sanction.

CRIM2251 3 Credits

The Art and Science of Homicide Investigation

Following along a literary theme of a Sir Arthur Conan Doyle "Sherlock Holmes" novel, this Wroxton-based course will examine the art and science of homicide investigation from a legal, criminological, forensic and operational perspective. The course will be facilitated in collaboration with British police officials. It will feature field visits to a post-crime scene, a criminal investigative center, the London Metropolitan Police and Scotland Yard. A combination of academic, cultural and social experiences will provide for a holistic educational experience.

CRIM2255 3 Credits

Cyber Crime

This course examines technology's role in the commission of financial crimes, identity theft, computer hacking, terrorism, sexual exploitation of children and traditional offenses such as murder, arson and drug trafficking. It will explore contemporary trends in computer crime, the means in which technology is exploited for criminal endeavors, the motives of the cyber offender, the forensic analysis of a computer to assist in the development of a suspect's psychological profile, the role of computer forensics in investigations and the protection and processing of an electronic crime scene.

CRIM2240 3 Credits

Criminal Profiling

This course will examine crime and the criminal from the perspective of psychological profiles,

different levels of motivation and different prognoses of criminal behavior. Criminal behavior will be presented as complex behavior with different phenomenology, psychopathology and dynamics. In addition to the study of topologies, theories and research, a major focus will be on criminal profiling through presentation of case material and case findings to further an understanding of criminal behavior.

CRIM2250

3 Credits

Emerging Issues in Crime and Justice

This course provides a rigorous examination of emerging issues and controversies related to crime and public policy, the criminal justice system and the administration of justice. Topics such as the U.S. Patriot Act, capital punishment, drug policies and their enforcement, police ethics and discretion, the use of force, recidivism and discrimination will be addressed.

CRIM2700

3 Credits

Security Investigations and Case Management

The objective of this course is to provide the student/practitioner with a comprehensive overview and understanding of how to conduct and effectively report background, incident and administrative investigations in a corporate environment. It will cover the use of appropriate investigative techniques as authorized by law. Students will be provided with a working knowledge of emergency planning and "risk analysis" as the means to provide for continued operations. This course also will provide the knowledge to appreciate the motivation and methodology of foreign and domestic terrorist groups as well as the means to protect personnel and corporate personnel assets against terrorist attack.

CRIM3301

3 Credits

Computer Technology in the Criminal Justice System

A comprehensive review of the use and applications of computer and information technologies within the criminal justice and private security fields. Topics will include the use of the computer and related technologies for criminal investigations, intelligence gathering, crime-mapping and analysis, predictions, biological (DNA) identification, personnel management and administration and other areas germane to the criminal justice and security fields.

CRIM3302

3 Credits

Criminal Justice Management and Administration

A comprehensive overview of the dynamics of effective supervision, management, administration and general human resource management

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within various settings of the criminal justice system. This course will examine the major principles, practices and theories associated with personnel performance, assessment, productivity, motivation and leadership.

CRIM3503

3 Credits

Criminal Justice Internship

Individually designed internships within federal, state and local police/law enforcement agencies, courts and adjudication and correctional agencies, including probation, parole and private security. Students develop hands-on experience in all facets of the respective agency that they select. The internship provides the students with insight, experience and an available network of professional colleagues. Prerequisites: CRIM1101 Introduction to Criminal Justice and CRIM1102 Criminology and Social Theory.

CRIM3504

3 Credits

Criminal Justice Ethics

An examination of the moral issues and dilemmas facing criminal-justice practitioners. An understanding and appreciation of the principles of justice will serve as a foundation for considering case studies involving ethical decision-making in various criminal justice agencies. Issues considered are discretionary decision-making, corruption, use of force, race and gender discrimination and capital punishment.

CRIM3505

3 Credits

Interviewing and Interrogation

This course examines strategies utilized in the process of interviewing and interrogation. There is an emphasis on communication theory and psychological issues. The differences between interviewing and interrogation will be analyzed, and the general issues regarding eyewitness evidence will be examined.

CRIM3506

3 Credits

White-collar Crime

This course will examine crimes committed by governments, corporations and individuals. Specific topics include embezzlement, fraud, extortion, forgery, conspiracy, bribery, perjury, obstruction of justice, official misconduct, unfair trade practices and environmental/manufacturing/labor/administrative violations. Issues relating to the investigation, enforcement and prosecution will be discussed.

CRIM3507

3 Credits

Domestic Violence

This course will take an interdisciplinary approach to examining domestic violence. The cycle of violence, dominance and control among adults and intimate partners will be explored from a sociological, criminological and psycho-

logical perspective. The course will examine the criminal justice system's response to the role of the police and proactive arrest policies, aggressive case prosecution, court-issued restraining orders and anti-stalking legislation.

CRIM3508

3 Credits

The Politics of Crime

This course will examine the political influences that directly and indirectly affect legislation, enforcement and remediation of crime within American society. Topics will include victim rights, the politician's influence on allegations of police brutality, sentencing, prison reform and other crime and policy issues.

CRIM3509

3 Credits

Introduction to Homeland Security

The objective of this course is to provide the students with a comprehensive overview and understanding of homeland security (HLS), the Department of Homeland Security (DHS) and its relevance to international and domestic law enforcement. Several acts of domestic and international terrorism will be analyzed and discussed. Issues such as target hardening and preparedness will be studied. This course will review case studies of past domestic and international terrorism attacks. In addition, this course will conduct an in-depth analysis of past and current HLS and relevant policing models, practices, policies and programs as well as examine the overall restructuring of the federal government agencies that now make up the DHS.

CRIM3510

3 Credits

Criminal Justice Professional Lecture Series

In an effort to expose students to the practical side of criminal justice, this course utilizes criminal justice professionals and other service providers as weekly guest lecturers. Speakers are selected from a variety of criminal justice fields including policing; the courts (judges, prosecution and defense); institutional corrections; probation; parole; and victim services. In addition to providing students with a better understanding of the workings of the system, the course also provides students with further insight into the various criminal justice disciplines with a view toward future career choices.

CRIM3511

3 Credits

Organized Crime

This course is designed to expose students to the history and impact of organized crime in its various guises. It briefly examines the economic and social conditions, which foster the initiation and growth of criminal enterprises within diverse societies, the current status of traditional and nontraditional gangs and the means through

which those organizations control illegal activities by using violence, bribery and corruption to overcome social control.

CRIM3512

3 Credits

Comparative Criminal Justice Systems: United States and Great Britain

This course, held at FDU's Wroxton College in England, will conduct a comparative analysis of the criminal justice systems of the United States and Great Britain. Taught in collaboration with British criminal justice professionals and the faculty of Wroxton College, the course will examine the respective social, cultural, historical, political, economic, geographical, operational and administrative components of both systems. The course will feature field visits to local police constabularies, the London Metropolitan Police (Scotland Yard), British courts and British prisons.

CRIM3513

3 Credits

Analysis of Serial Killers

The topic of serial murder occupies a unique niche within the criminal justice community. In addition to the significant investigative challenges they bring to law enforcement, serial murder cases attract an overabundance of attention from the media, mental health experts, academia and the general public. While there has been significant, independent work conducted by a variety of experts to identify and analyze the many issues related to serial murder, these investigations prove to be a challenge for law enforcement. Serial murder is neither a new phenomenon nor is it uniquely American. Dating back to ancient times, serial murderers have been chronicled around the world. The issues relating to serial killers shall be studied from a multidisciplinary perspective.

CRIM3514

3 Credits

Comparative International Criminal Justice Systems

This course will conduct a comparative analysis between the United States criminal justice system and those of other major countries throughout the world. The course will examine contrasting social, cultural, religious, political, economic, geographic, operational and administrative components that influence the maintenance of social control and compliance with civil and criminal laws.

CRIM3515

3 Credits

Advanced Internship

Students successfully completing CRIM3503 Criminal Justice Internship may choose to continue to develop hands-on experience in the criminal justice field. They may elect to accept more challenging responsibilities at their initial

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internship site or progress to another internship experience. Prerequisites: CRIM1101 Introduction to Criminal Justice and CRIM3303 Criminal Justice Internship.

CRIM3316

3 Credits

Global Terrorism

This course examines the causes, motives and effects of global terrorism from an international perspective. It explores strategies and countermeasures employed by government and private sectors that aim to prevent and mitigate terrorism, including the role and responsibility of the media and the criminal justice system. This course, conducted at FDU's Wroton College (United Kingdom), features field visits and guest lecturers with experience and expertise in the field of terrorism.

CRIM3317

3 Credits

Fraud Investigation

This course offers students a comprehensive overview of fraud prevention and detection. Learners will gain insight into the implementation of effective fraud-investigation techniques while examining real-life fraud schemes used by employees, owners, managers and executives to defraud their customers. As a result, students will be able to identify and quantify the vulnerabilities that permit frauds to succeed, and they will appreciate the application or implementation of deterrents, which may be mandated by corporate policy and/or legislative guidelines.

CRIM3319

3 Credits

Courts and Judicial Process

This course will provide students with an understanding of the process, organization and operation of the judicial branch of government. The judiciary is more than courtrooms, judges, lawyers and trials. There is a vast behind-the-scenes structure composed of other numerous employees and programs which are not fully understood by the public, police, attorneys or other users of the court system. The divisions of court and these programs will be examined in detail as well as the corresponding job opportunities they provide to criminal justice majors.

CRIM3320

3 Credits

Interviewing and Counseling Strategies

Effective communication lies at the heart of the criminal justice enterprise. Every profession that is linked to the system has a requirement for skill in communication and the maintenance of resourceful states. Students will be expected to learn the strategies of successful communication and change in an open model that will serve them through their undergraduate and professional careers. This course focuses specifically on the development of oral communication

skills and the development of sensory acuity in communication.

CRIM3321

3 Credits

Drugs, Addictions and the Law

Students will explore the nature of addictions and substance abuse in terms of human neurophysiology, drug properties and psychosocial variables. An overview of treatment modalities will be presented. Students will also focus on law-enforcement issues including drug identification, detection and testing.

CRIM3322

3 Credits

Negotiation and Conflict Management

Criminal justice professionals are regularly placed in positions where they must diffuse threats, negotiate between parties and bring calm to potentially explosive situations. This course will examine the theoretical basis for and practice the skills and techniques for diffusing threats, bringing calm, finding common ground and creating the basis for agreement and cooperation in interpersonal, intergroup and other problem contexts.

CRIM3324

3 Credits

Community Resource Management

Criminal justice professionals regularly encounter people who are in need of a host of services including crisis management, legal and financial assistance, food, emergency housing or protective shelter, health care, mental health care and substance-abuse treatment. This course will examine the kinds of problems typically encountered, the agencies that can supply these needs, levels of service, eligibility criteria and how to navigate the various systems.

CRIM3325

3 Credits

Traumatic Injuries and Death Investigation

This course will focus on the forensic components associated with traumatic injuries and sudden deaths, whether sustained by accident, self-inflicted or by consequence of others. Forensic evidence, when properly identified and interpreted, serves as invaluable tools toward the assessment, mitigation, treatment, presentation and investigation of injuries and sudden deaths. This course will examine the significance and impact of forensic evidence from a sociological, psychological, legal, medical and criminal perspective. This course will be of particular interest to business, criminal justice, nursing and psychology majors.

CRIM3326

3 Credits

Rehabilitative Strategies

Criminal justice professionals are often charged with facilitating diversionary sentences, reduc-

ing recidivism, addressing a wide range of problem behaviors and easing transition from prison life into normal society. This course will examine the problems, contexts and techniques faced by criminal justice professionals charged with some facet of facilitating the rehabilitative process.

CRIM3327

3 Credits

File System Forensic Analysis and Investigation

This course is designed to introduce students to computer file system storage, analysis and retrieval. It provides an overview of computer foundations and associated investigative techniques beginning with an illustrated overview of contemporary volume and file systems, namely, crucial information for discovering hidden evidence, recovering deleted data and validating computer forensic tools. Students will investigate and describe data structures, analyze examples of disk images, provide advanced investigation scenarios and use today's most valuable open-source file system analysis tools. Prerequisite: CRIM2218 Computer Technologies and Cyber Crime, CRIM2235 Cyber Crime or CRIM3301 Computer Technology in the Criminal Justice System.

CRIM3330

3 Credits

Dynamics of Leadership

The objective of this course is to offer the student a comprehensive overview of the skills necessary to be an effective leader. The course will examine the various leadership styles that are utilized by both public- and private-sector leaders. Particular attention will be focused on the impact of both effective and ineffective leadership in an organization. The training and preparedness that both new and seasoned leaders undergo will be examined.

CRIM3700

3 Credits

Asset Protection, Vulnerabilities and Technologies

In the context of new and developing roles of security leaders, this course examines three critical components for managing a security department: security-prevention methods, vulnerability and threat assessments, protection of information and computer technologies. Topics covered include principles of prevention, management systems, vulnerability and criticality, risk management, tactics and countermeasures, identification and disposition of abusers, loss prevention, identification and controls and computer security and countermeasures.

CRIM3890

3 Credits

Legal and Analytical Reasoning

The objective of this course is to examine the cognitive processes associated with critical thinking and analytical reasoning, which represent important skills and competencies that

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underscore the effectiveness of practitioners within America's legal and criminal justice system. While the concepts and principles of this course will be borrowed from formal logic, critical thinking and a range of other disciplines, the application of these ideas are specific to the requirements of the Law School Admission Test (LSAT) and other standardized instruments required for graduate and law school admissions.

CRIM4010 3 Credits

Computer Forensic, Software and Hardware Applications

This course examines the skills necessary to launch and complete a successful computer forensic investigation utilizing the latest software and hardware applications. Students will learn how to conduct high-tech investigations — from acquiring digital evidence to reporting its findings. This course further highlights the objectives of the International Association of Computer Investigative Specialists (IACIS) certification to provide credible, standards-based information. Prerequisite: CRIM3327 File System Forensic Analysis and Investigation.

CRIM4405 3 Credits

Criminal Justice Capstone Seminar

This course is specifically designed for criminal justice majors nearing completion of their undergraduate studies. Designed to be highly engaging and interactive, this course provides a cogent yet comprehensive synthesis, recapitulations and critical analysis of the criminal justice system. The first half of the semester consists of a series of independent and collaborative research projects that will facilitate a critical analysis and critique of the United States criminal justice system from a theoretical and operational perspective. The second half of the semester is designed to provide for an introspective reflection and assessment of a student's undergraduate studies and how that translates to planning and preparing for one's personal and professional life after college.

CRIM4430 1–3 Credits

Selected Studies in Criminal Justice and Legal Studies

This course covers topics of special interest to criminal justice students for which no formal course is offered. A full description of these courses can be obtained at the School of Criminal Justice, Political Science and International Studies.

CRIM4700 3 Credits

Security and Personnel Management and Administration

This class is designed to give security personnel at all levels a fresh insight into current manage-

ment, leadership and supervision theories and practices. It provides a rigorous and comprehensive understanding of the multidimensional aspects for effective and efficient supervision, management, administration and leadership of private security organizations.

CRIM4800 1–3 Credits

Independent Study

Independent study under the direction of a specific faculty member after consultation with the school director. Limited to a total of 6 credits.

Dance

School of Art and Media Studies

DAN1230

3 Credits

World Dance Appreciation and Practice

This introductory course examines, through theory and practice, the techniques and philosophy of various partnership dances. Students will learn the basic steps and turn patterns of various dances, emphasizing the central roles of leading/following, rhythm familiarization and body movement.

Economics

School of Criminal Justice, Political Science and International Studies

ECON2103

3 Credits

Introduction to Economics

Survey of economic concepts and vocabulary that requires a minimal amount of mathematics. The course focuses on modern questions such as markets and regulations, trade and tariffs, distribution and redistribution, supply and demand, fiscal and monetary policy and their roles in the global economy.

Education

Peter Sammartino School of Education

EDUC1108

3 Credits

Seminar in Professional Practice I: The Teacher's Role in School and Community

Seminar designed to integrate professional and personal development, professional practice and academic growth in the following areas: human relations in the school and community, education in American society and organizational process and behavior within the context of the school and community.

EDUC1433

1 Credit

Basic Technology for College Students

Software programs and hardware devices are introduced to students for the purpose of assisting them with a variety of difficulties. The overall focus is to help students get acquainted with the types of technology that are available and to understand which products best fit their learning profiles. Note: Only open to Regional Center for Learning Disabilities students.

EDUC2202

3 Credits

Development of Children with and without Disabilities

This course will provide an overview of the developmental changes that can be expected from early childhood through adolescence and the role that contexts, especially schools, play in promoting this development. Physical, linguistic, cognitive and socio-emotional development of children and adolescents will be discussed. Normative development in these areas will be used as a standpoint from which to examine atypical development (mild, moderate and severe disabilities, including autism spectrum disorders). This course will also provide an overview of the role that families, peers and schools play in influencing the development of children with and without disabilities.

EDUC2207

3 Credits

Introduction to Special Education and Students with Disabilities Including Autism Spectrum Disorder

This course will provide an overview of historical legislative decisions that mandate special education and discuss how these mandates drive current practice in special education. Processes for referring, identifying and serving children who are eligible for special education services will be discussed. Physical, social, cognitive and behavioral characteristics of students with disabilities (including autism spectrum disorders) will be described. Course participants will learn to plan, adapt and implement effective instruction and assessment to facilitate academic achievement for learners with disabilities.

EDUC2208

3 Credits

Classroom Management and Positive Behavioral Supports

This course will provide an overview of the common types of school-based challenging behavior and major theories of behavior. Best practices in school-wide, classroom and individual behavior management will be discussed, with a focus on positive behavior interventions and supports as well as family involvement. This course is designed to prepare educators to effectively use functional behavior assessment to

develop behavior management interventions when working with students with disabilities.

EDUC2209
3 Credits

Seminar in Professional Practice II: Teachers as Educational Leaders

Seminar designed to integrate professional and personal development, professional practice and academic growth in the following areas: teacher as a reflective practitioner, teacher as a professional and teacher as a leader in the school community. A 0-credit lab to be used for Praxis preparation. Prerequisite: EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community.

EDUC2294
2 Credits

Metacognitive Skills II

Metacognitive skills include psychosocial topics. There are units on interpersonal skills, advocacy skills, motivation, relaxation techniques, stress management, behavior modification and metacognitive awareness of specific learning disabilities in terms of affective and academic manifestations. The course includes a unit on career planning. Note: Open only to Regional Center for Learning Disabilities students.

Spring

EDUC2401, EDUC2402
1 Credit Each Semester

Field Experience I, II

On-site field experiences (30 hours each) in public schools and classrooms, focusing on their function, structure and curricula. Prerequisite: corresponding seminar in professional practice.

EDUC3309
3 Credits

Seminar in Professional Practice III: The Functions of Teaching

Seminar designed to integrate professional and personal development, professional practice and academic growth in the following areas: reflection and action research; diversity in the classroom; teacher as a decision-maker, planner, manager and problem solver; curriculum, instruction and assessment. Prerequisites: EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community and EDUC2209 Seminar in Professional Practice II: Teachers as Educational Leaders.

EDUC3310
0 Credits

Praxis Review

This course will focus on test-preparation skills and strategies that will help students prepare for the Praxis II Exam required for initial teacher certification in elementary education. Prerequisites: EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community and EDUC2209

Seminar in Professional Practice II: Teachers as Educational Leaders.

EDUC3403
2 Credits

Field Experience III

On-site field experience (60 hours) in public school classrooms, focusing on curricula, instruction and students involved in the learning process; concurrent with junior-year graduate-level education course work in elementary or secondary specialization. Students are assigned a teacher mentor and are expected to prepare and teach formal lessons and conduct a student case study. Prerequisites: EDUC1108 Seminar in Professional Practice I: The Teacher's Role in School and Community; EDUC2209 Seminar in Professional Practice II: Teachers as Educational Leaders; EDUC2401, EDUC2402 Field Experience I, II; and EDUC3309 Seminar in Professional Practice III: The Functions of Teaching. Corequisites: approved graduate education courses in elementary or secondary specialization.

EDUC3404
2-3 Credits

Field Experience IV: Applied Field Research

Field experience in senior year designed as a culminating experience to undergraduate course work prior to apprenticeship (student) teaching. Emphasis on application of field research and the knowledge base developed in previous course work and field experiences to classroom/instructional practice. The student is placed in a school(s) with an assigned school-based teacher mentor. While in the field (minimum 60 hours), the preservice teacher conducts a research study on the topic of his/her choice (subject to adviser approval) and is required to prepare a final research report on the study and its application to the classroom and instructional practice. An on-site visit/observation of formal teaching also is required by a School of Education faculty supervisor. Prerequisite: EDUC3403 Field Experience III. Pre/Corequisites: approved graduate education courses in elementary or secondary specialization.

EDUC3405
2-3 Credits

Field Experience — Global

This course will give students the opportunity to conduct a field experience in a school outside the United States. Students will interact with staff and students in an international school and will be exposed to new teaching strategies. Prerequisites: EDUC2401, EDUC2402 Field Experience I, II.

EDUC3406
2-3 Credits

Field Experience Global — Japan

This course will give students the opportunity to conduct a comparative field experience in the

United States and Japan. Students will observe instructional approaches and methodologies used in Japan and in the United States. The course requires seminar meetings on campus and a study-abroad portion to Japan. Prerequisites: EDUC2401, EDUC2402 Field Experience I, II.

EDUC4430
2 Credits

Metacognitive Strategies I

An interdisciplinary course focusing on the development of metacognitive strategies which facilitate academic learning, including note taking, time management, visualization techniques, relaxation techniques and critical decision-making skills. Classroom instruction, discussion and application. Note: Open only to Regional Center for Learning Disabilities students.

EDUC4431
1 Credit

Introduction to Research Skills

Developing research skills. Strategies for locating information, evaluating sources and writing citations. Formulating research questions and developing literature reviews. Prerequisite: EDUC2294 Metacognitive Skills II.

EDUC4432
1 Credit

English Language Structure: Application to Text

Structure, organization, logic and usage of the English language. Understanding of the English language as it applies to encoding, decoding, written expression and comprehension. Analysis of the origin of the English vocabulary.

EDUC4800
1-3 Credits Each Semester

Independent Study in Education

Special projects, readings and research approved by the student's academic adviser and the director of the School of Education.

Graduate Courses

Students will take selected graduate courses in education with the approval of the adviser, subject to review of the student's academic standing (cumulative GPR) and completion of appropriate prerequisites. Titles and sequence of graduate education courses taken in the junior and senior years are listed in the Combined Degrees/Accelerated Programs section in this *Bulletin*. Interested students should see the *Graduate Studies Bulletin* for a list of courses and descriptions.

Electrical Engineering

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Electrical Engineering

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

EENG2221

4 Credits

Lecture/Laboratory 5 Hours
Signals and Systems I

Circuit elements and laws. DC Circuits. Analysis methods. Network theorems. Operational amplifiers. Energy storage elements. Transient and forced response. Integrated laboratory experience. Prerequisites: MATH2202 Calculus II and PHYS2204 University Physics II.
Fall *Fee*

EENG2222

3 Credits

Lecture/Laboratory 4 Hours
Signals and Systems II

Sinusoidal forcing functions, phasors and impedance. Steady-state response. Power calculations. Resonance. Coupled circuits. Introduction to Laplace transforms. Two-port circuits. Integrated laboratory experience. Prerequisites: EENG2221 Signals and Systems I and MATH2210 Differential Equations (or permission of instructor).
Spring *Fee*

EENG2287

3 Credits

Lecture/Laboratory 4 Hours
Microprocessor System Design I

Introduction to microprocessors and microcomputers. Software architecture of processors: memory addressing, data types, register organization. Assembly-language programming and debugging. Integrated laboratory experience. Prerequisite: ENGR2286 Digital System Design.
Fall *Fee*

EENG2801

3 Credits

Computer Engineering and Telecommunications

AC and DC circuits. Integrated circuits and amplifiers. Transducers and instrumentation. Analog and digital systems. Microprocessors and microprocessor systems. Transmission media. Telecommunication systems and applications. For nonelectrical engineering majors.

EENG3223

3 Credits

Lecture/Laboratory 4 Hours
Linear Systems

Classification of signals and systems. Linear Time-Invariant Systems. Time-domain analysis.

Laplace transform techniques. Frequency-domain analysis. Z-transform analysis for discrete systems. Integrated laboratory experience. Prerequisites: EENG2222 Signals and Systems II and MATH2210 Differential Equations (or permission of instructor).
Fall *Fee*

EENG3224

3 Credits

Lecture/Laboratory 4 Hours
Digital Signal Processing

Discrete-time signals and systems. Convolution. Z-transform. Discrete-time Fourier transform. Discrete Fourier transform (DFT). Design of digital filters. Applications. Integrated laboratory experience. Prerequisite: EENG3223 Linear Systems or permission of instructor.
Spring *Fee*

EENG3244

3 Credits

Lecture/Laboratory 4 Hours
Electromagnetic Fields and Waves

Electrical and magnetic fields, Maxwell's equations, boundary conditions, plane waves, guided waves in transmission lines and waveguides, impedance matching by use of a Smith chart, antenna and radiation, considerations in high-frequency circuits. Integrated laboratory experience. Prerequisites: MATH3541 Advanced Engineering Mathematics and PHYS2204 University Physics II.
Fall *Fee*

EENG3265

3 Credits

Lecture/Laboratory 4 Hours
Electronics I

Basics of operational amplifiers. Selected operational amplifier applications. Selected integrated circuits and their applications. Integrated laboratory experience. Prerequisite: EENG2222 Signals and Systems II or permission of instructor. (Equivalent to EGTG2265 Electronics I.)

EENG3266

3 Credits

Lecture/Laboratory 4 Hours
Electronics II

Diodes and circuit applications. Bipolar junction transistors and field effect transistors and their circuit applications. Low-frequency amplifiers using small-signal models. Biasing, integrated laboratory experience. Prerequisite: EENG3265 Electronics I or permission of instructor. (Equivalent to EGTE3266 Electronics II.)

EENG3267

3 Credits

Lecture/Laboratory 4 Hours
Electronics III

Integrated circuit-building blocks. Multistage, differential and power amplifiers. Frequency

response. Feedback. Oscillators. Digital electronics. Integrated laboratory experience. Prerequisites: EENG2222 Signals and Systems II and EENG3266 Electronics II. (Equivalent to EGTE3267 Electronics III.)

EENG3288

3 Credits

Lecture/Laboratory 4 Hours
Microprocessor System Design II

Microprocessor and microcontroller architectures. Input/output, interrupts and timers. Programming of parallel ports, serial communication interfaces. Integrated laboratory experience. Prerequisite: EENG2287 Microprocessor System Design I.
Spring *Fee*

EENG4260

1 Credit

2 Contact Hours

Preparation for Electrical Engineering Project

Research on choosing a design project, incorporating appropriate engineering standards and multiple realistic constraints and writing a project proposal for the electrical engineering senior project. Prerequisite: senior status.
Fall

EENG4268

2 Credits

2 Contact Hours

Electrical Engineering Project

An independent design project is carried out under the supervision of a faculty member. Prerequisite: EENG4260 Preparation for Electrical Engineering Project.
Spring *Fee*

EENG4321

3 Credits

Engineering Optics I

Laws of reflection and refraction. Matrix treatment of simple optical systems. Design of optical instruments. Imaging errors. Waves and superposition. Interference of light. Wavefront and amplitude division interferometry. Diffraction. Polarization. Prerequisites: MATH2210 Differential Equations and PHYS2204 University Physics II.
Fee

EENG4322

3 Credits

Engineering Optics II

Topics of current interest in applied engineering optics. Introduction to lasers and fiber optical systems, optical interferometry and holography. Design considerations in multilayer filters, Fresnel's equations, optical properties of materials and Fourier optics. Prerequisite: EENG4321 Engineering Optics I.
Fee

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EENG4525

3 Credits

Lasers

Basic principles of lasers and their applications in optical communication systems. Laser sources, laser operation, modulation and design of systems incorporating lasers. Emphasis on lasers useful in fiber optical systems such as solid-state infrared devices. Prerequisite: EENG3244 Electromagnetic Fields and Waves.

Fee

EENG4526

1 Credit

Photonics Laboratory

Experiments and projects selected from topics in optical design, digital image processing, optical signal processing, holography, optical filtering and interferometry. Prerequisite: EENG4322 Engineering Optics II. Corequisites: EENG4328 Optical Design and EENG4392 Optical Communications.

Fee

EENG4528

2 Credits

Optical Design

An introduction to the principles and applications of optical system design, including computerized optical design. Prerequisite: EENG4322 Engineering Optics II. Corequisite: EENG4326 Photonics Laboratory.

Fee

EENG4535

3 Credits

Microelectronics and Fundamentals of Very Large Scale Integration (VLSI)

Basic processing technology, layout fundamentals, passive components and their parasitic effects, BJTs, MOSFETs, nMOS circuits. Prerequisite: EENG3266 Electronics II.

EENG4536

3 Credits

Very Large Scale Integration and Projects

Circuit design and concepts, nMOS circuits, layout guidelines, programmable logic arrays, finite state machines, system design and timing, design and testing of a VLSI circuit (project). Prerequisite: EENG4335 Microelectronics and Fundamentals of Very Large Scale Integration (VLSI).

EENG4541

3 Credits

Lecture/Laboratory 4 hours

Communication Systems

Signal analysis, signal transmission, linear modulation, angle modulation, pulse modulation, data transmission, multiplexing. Integrated laboratory experience. Prerequisite: EENG3223 Linear Systems.

Spring

Fee

EENG4542

3 Credits

Lecture/Laboratory 4 hours

Data Communications and Computer Networks

Data encoding and transmission, error detection and correction, data encryption and network security. Network architecture and model. Circuit and packet switching, optimal routing, wide and local area networks, internet protocols. Integrated laboratory experience. Prerequisite: Completion of sixth semester or permission of instructor.

Fall

Fee

EENG4547

3 Credits

Wireless Communication

Practical and theoretical aspects of wireless communication, system design with particular emphasis on mobile communication, cellular concepts, multiuser channels, propagation characteristics, modulation and encoding. Prerequisite: completion of the sixth semester.

Spring

Fee

EENG4555

3 Credits

Computer Control and Interfacing

Transducers and sensors, signal acquisition and conditioning, analog signal processing, data conversion, A/D and D/A conversion, I/O ports, interface design, process controllers, interrupts, higher-level languages for control. Prerequisite: EENG2287 Microprocessor System Design I.

Fee

EENG4554

3 Credits

Knowledge Engineering I

Structure of neural network and fuzzy logic systems with applications in signal processing, pattern recognition, process control and optimization. Prerequisite: completion of the sixth semester.

Fee

EENG4555

3 Credits

Analog and Digital Control

Closed loop feedback systems, general feedback theory, control system design, stability, sensitivity, error response, root-locus, compensation techniques, digital control, discrete time systems, design in Z-domain, controllability, optimal control. Prerequisite: EENG3223 Linear Systems.

Fall

EENG4556

3 Credits

Knowledge Engineering II

Principles of robot design, search methods, automated assembly operations, learning para-

digms for automated environments. Prerequisites: EENG4354 Knowledge Engineering I.

Fee

EENG4562

3 Credits

Electronics Instrumentation

Study of circuits and functions of electronic instruments for indicating and monitoring. Electronic voltmeters and multimeters, potentiometer and galvanometer types of recorders, transducers in industrial and research instrumentation, frequency and time standards and measurement, signal generators, pulse generators, swept frequency sources. Prerequisite: EENG3265 Electronics I.

EENG4575

3 Credits

Lecture/Laboratory 4 hours

Electrical Energy Conversion

General considerations of electromagnetic phenomena and magnetic circuits. Exercises with ferromagnetic loops and air gap. Transformer theory — equivalent circuits and phasors. Regulation and efficiency evaluation, rotating machinery, DC and three-phase systems. Power relationships, operating characteristics. Prerequisite: EENG2222 Signals and Systems II or EGTE2216 Circuits II.

Fall

EENG4576

3 Credits

Power Control Systems

Technical aspects of electric systems that transmit power from the generator to the loads. Transmission-line calculations. Fault calculation. Power flow studies. Prerequisite: EENG4375 Electrical Energy Conversion or permission of instructor.

EENG4581

3 Credits

Computer-aided Analysis and Design I

Use of CAD software in analyzing and designing both analog and digital circuits. Prerequisite: completion of the sixth semester. (Equivalent to EGTE4381 Computer-aided Analysis and Design.)

EENG4582

3 Credits

Computer-aided Analysis and Design II

Use of CAD software and modern programming languages in solving electrical engineering problems. Prerequisites: EENG4581 Computer-aided Analysis and Design I and completion of the sixth semester.

Fee

Electrical Engineering

University College: Arts • Sciences • Professional Studies
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EENG4385

3 Credits

Modern Manufacturing Systems

Basic engineering principles of analysis and design of industrial robotic manipulators, including configuration kinematics, motion kinematics status, dynamics and control.

EENG4392

3 Credits

Optical Communications

Introduction to optical communications, sources and detectors, fiber-optic systems, optical waveguide components, switches and couplers, multiplexers, lasers, system design. Prerequisite: completion of the sixth semester.

EENG4394

3 Credits

Electronic Telecommunications

Network and terminals, global reach, radio channels, cables and waveguides, communication satellites, digital channels and PCM, signal composition, time division, options in network design. Prerequisite: completion of the sixth semester.

EENG4396

3 Credits

Telecommunications Applications

Introduction to the practical use of computer networks and telecommunication technologies for business and instructional applications. Study of data communications and networking design and analysis and communication equipment and services in the context of the workplace. Use of the internet and the design and presentation of resources via the World Wide Web. Prerequisite: basic knowledge of data processing.

EENG4421

3 Credits

Honors Externship in Electrical Engineering

A supervised industrial experience for selected students. Prerequisite: permission of the school director.

EENG4430

3 Credits Each Semester

Special Topics in Electrical Engineering

A study of subjects of current interest in electrical engineering.

EENG4498, EENG4499

3 Credits Each Semester

Co-op in Electrical Engineering

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills. Prerequisite: permission of director of co-op.

EENG4800

1–3 Credits Each Semester

Independent Study in Electrical Engineering

Independent study under the direction of a specific faculty member after consultation with the school director.

EENG4875

1–4 Credits

Honors in Electrical Engineering

Independent study in electrical engineering for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

ENGR1204

3 Credits

Lecture/Laboratory 4 hours

Programming Languages in Engineering

MATLAB programming applied to engineering problem solving. Integrated laboratory experience.

Fall, Spring

ENGR1223

2 Credits

Lecture/Laboratory 4 hours

Introduction to CAD

Introduction to the practical use of computer hardware and software for drafting applications. Corequisite: MATH1107 Precalculus or equivalent.

Spring

Fee

ENGR1301

3 Credits

Lecture/Laboratory 5 hours

Engineering Practices, Graphics and Design

Analytical techniques: equations, graphics, statistics. Introduction to computer-aided analysis software. Engineering applications. Introduction to design. Fundamentals of graphics as applied to sketching and drafting. Professionalism and ethics. Integrated laboratory experience.

Fall, Spring

ENGR2210

3 Credits

Technical Communications

Overview of the writing, editing, research and design principles of technical and professional communication. Students will learn how to gather, organize and present information effectively. Course includes business and technical documentation, including online tools; oral reports and public speaking; teamwork and participation in group meetings; use of visuals to communicate material; professional, ethical and social responsibilities; and research techniques using the library and the internet.

Prerequisite: ENWR1001 Composition I:

Rhetoric and Inquiry.

Fall, Spring

ENGR2221

3 Credits

Statics

Statics of particles and rigid bodies, equivalent force systems, equilibrium of rigid bodies, centroids and center of gravity, analysis of trusses and frames, forces in beams and machine parts, friction and moments of inertia. Prerequisites: MATH1201 Calculus I and PHYS2203 University Physics I.

Fall

ENGR2228

3 Credits

Lecture/Laboratory 4 hours

Strength of Materials

Shear, moments, stresses, bending, torsional shear, moment and shear diagrams, deflections, stress strain, bolted and welded joints, combined loading and column. Prerequisite: ENGR2221 Statics.

Spring

ENGR2286

3 Credits

Lecture/Laboratory 4 hours

Digital System Design

Binary codes, gates and flip-flops, registers and counters, adders and ALUs, analysis and design of combinational and sequential circuits. Logic simulation. Logic families. Integrated laboratory experience. (Equivalent to EGTG2286 Digital System Design.)

Fall, Spring

Fee

ENGR3000

3 Credits

Lecture/Laboratory 4 hours

Modern Technologies: Principles, Applications and Impacts

This course provides a systematic introduction to modern technologies — their history, evolutionary development, principles and applications. The influences, impacts and ethical implications of technology on the economy, politics, culture, environment, society and the world are investigated. Attention is given to the relationships and connections of technology to other fields. Students learn the basic principles underlying the technologies, how to apply and manage technologies and assess their impacts. Critical thinking and problem-solving skills used in research, design, development, invention and innovation are emphasized. The laboratory experiences help the students develop the experimental research, creative and design skills.

Fall, Spring

Fee

Engineering Technology

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ENGR3200

3 Credits

Lecture/Laboratory 4 hours

Advanced Engineering Programming

Use of computers for design, analysis, control and decision making. C++ concepts. Integrated laboratory experience. Prerequisite: ENGR1204 Programming Languages in Engineering.

Fall

ENGR3211, ENGR3212

6 Credits (3 Credits Each Semester)

Engineering Materials I, II

Two-course sequence covering properties of metals and alloys, semiconductors, ceramics, glasses and polymers. Crystal structure, structural defects, alloying and phase diagrams.

Prerequisite for ENGR3211 Engineering Materials I is CHEM1201 General Chemistry I. ENGR3211 Engineering Materials I is a prerequisite for ENGR3212 Engineering Materials II.

Fall (ENGR3211), Spring (ENGR3212)

ENGR3341

3 Credits

Advanced Engineering Mathematics

Vector algebra, vector calculus, gradient, divergence, curl. Line and surface integrals, Green's theorem, Stoke's theorem, divergence theorem. Vector spaces, dot products, matrices, linear equations, determinants, eigenvalues, diagonalization. Complex analysis, complex integration, power series, residue theorem. Prerequisite: MATH2203 Calculus III or permission of instructor.

Spring

ENGR3351

3 Credits

Lecture/Laboratory 4 hours

Applied Thermodynamics

Introduction to the basic concepts of thermodynamics. Zeroth Law. Work and heat. First Law, Second Law, Carnot theorem and entropy. Applications of gas and steam cycles to open- and closed-loop systems, such as gasoline and diesel engines, and steam turbines.

Principles of refrigeration and air conditioning.

Prerequisites: CHEM1201 General Chemistry I, MATH2202 Calculus II and PHYS2204 University Physics II.

Spring

ENGR3431

3 Credits

Dynamics

Kinematics, kinetics, linear, angular, plane motion. Work, energy, power, impulse and momentum. Prerequisites: ENGR2221 Statics and MATH2202 Calculus II.

Spring

ENGR4000

3 Credits

History of Technology

Ways in which technology contributed to the building of a global society. Technology as a central player in the larger political, cultural and economic trends during various periods.

ENGR4001

2 Credits

3 Contact Hours

FE/EIT Exam Preparation I

First part of a two-course sequence that helps prepare students for the Fundamentals of Engineering/Engineer in Training (FE/EIT) Exam. This course serves as a review class and may include material not covered in the first three years of students' curricula. Prerequisite: senior standing.

ENGR4002

1 Credit

2 Contact Hours

FE/EIT Exam Preparation II

Second part of a two-course sequence that helps prepare students for the Fundamentals of Engineering/Engineer in Training (FE/EIT) Exam. This course serves as a review class and may include material not covered in the first three years of students' curricula. Prerequisite: ENGR4001 FE/EIT Exam Preparation I.

ENGR4210

3 Credits

Managerial and Engineering Economic Analysis

Concepts and techniques to evaluate the worth of technical systems, products and services in relation to their cost. Time value of money, cash flow equivalence, economic decision making among alternative courses of action, depreciation and taxes, replacement and break-even analysis. Prerequisite: MATH2202 Calculus II or permission of instructor. (Equivalent to EGTG4269 Management and Engineering Economics.)

Fall

ENGR4221

3 Credits

Engineering Statistics and Reliability

Statistics, regression, probability. Normal distribution. Poisson distributions and reliability as applied to engineering decisions, performance and quality control. Corequisite: MATH2202 Calculus II or permission of instructor.

Spring

ENGR4254

3 Credits

Lecture/Laboratory 4 hours

Fluid Mechanics

Applied fluid mechanics, applications of

hydraulic and pneumatic control amplification and power circuits. Introduction to fluidics.

Prerequisite: ENGR2221 Statics. Corequisite: MATH2210 Differential Equations.

Fall

ENGR4263

3 Credits

Lecture 2 hours; Laboratory 2 hours

Project Management in Engineering and Technology

This course covers the basic concepts, models and applications for successful management of projects in engineering and technology. This will include rationale for project management, project-management process, project-selection strategy, organizational concepts, project planning, scheduling and resource allocation, cost estimating, project monitoring, evaluation and control, project-earned value management and project termination. Emphasis will be on teamwork and student-project presentation.

Fee

ENGR4432

3 Credits

Selected Studies in Engineering

Selected studies of engineering topics or in an area of engineering.

ENGR4800

3 Credits

Independent Study in Engineering

Independent study of engineering topics or in an area of engineering under the direction of a specific faculty member after consultation with the school director.

Engineering Technology

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

Civil and Construction Engineering Technology

EGTC1205, EGTC1206

6 Credits (3 Credits Each Semester)

Lecture 2 hours; Laboratory 2 hours

Surveying I and II

Surveying as applied to the construction industry. Such areas as layout and control of buildings and roads, earthwork measurements, horizontal and vertical curves, superelevation on curves, computer applications to surveying and electronic measurements will be studied. Prerequisite for EGTC1205 Surveying I is MATH1107 Precalculus. EGTC1205 Surveying I is a prerequisite for EGTC1206 Surveying II.

Fall (EGTC1205), Spring (EGTC1206) Fee

Engineering Technology

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EGTC1223

2 Credits

Lecture 1 hour; Laboratory 3 hours

Introduction to CAD

Introduction to the practical use of computer hardware and software for drafting applications. Corequisite: MATH1107 Precalculus.

Spring *Fee*

EGTC1245

3 Credits

Lecture 2 hours; Laboratory 2 hours

Construction Materials and Systems

An introduction to the methods, equipment and personnel employed in constructing buildings and subsystems of buildings such as foundations, walls, floors and roofs. The types and physical properties of construction materials.

Fall, Spring

EGTC2246

3 Credits

Lecture 2 hours; Laboratory 2 hours

Timber Structures and General Building Systems

Wood used in home building: columns, girders, beams, joists, rafters, studs, joist and stud bridging. Use of charts and tables for practical applications of theory as to design, quality and strength of various industrial wood shapes.

AutoCad applications in representing general building systems of timber structures, exterior shell systems, conventional schematics of HVAC and electric, plumbing, wastewater and drainage systems. Prerequisites: EGTC1223 Introduction to CAD, EGTC1245 Construction Materials and Systems and EGTG2228 Strength of Materials.

Spring *Fee*

EGTC3250

3 Credits

Structural Analysis

Classical analysis methods of determinate and indeterminate structures. Deflection calculation of beams and trusses, work-energy methods, influence line concept for moving loads.

Prerequisite: EGTG2228 Strength of Materials.
Fall

EGTC3256

3 Credits

Steel Structures

The application of the principles of statics and strength of materials in the design and analysis of structural steel beams, columns, trusses and frames, connections and base plates, all in accordance with current AISC specifications.

Prerequisite: EGTG2228 Strength of Materials.
Fall

EGTC3257

3 Credits

Concrete Structures

The analysis and design of reinforced concrete beams, girders, slabs and columns, all in accor-

dance with current ACI code and standards.

Prerequisite: EGTG2228 Strength of Materials.

Fall

EGTC3261

3 Credits

Estimating I

The development of a procedure (including check and balance) for preparing a quantity survey of materials, labor and equipment for both general and specialty contractors. Prerequisite: MATH1107 Precalculus.

Fall

EGTC3262

3 Credits

Estimating II

A continuation of EGTC3261 Estimating I by adding the cost of production by summarizing overhead, expenses and profit to the sum of labor and materials cost. Prerequisite:

EGTC3261 Estimating I.

Spring

EGTC3270

3 Credits

Environmental and Land-use Planning

Environmental laws and pollution, environmental-impact analysis, land-usage laws and economics will be covered. Prerequisite: ENGR1301 Engineering Practices, Graphics and Design.

Spring

EGTC3271

3 Credits

Construction Labor

A broad overview of the construction industry comparing and contrasting the current union and open-shop wages and work practices. Apprenticeships, journeymen training programs; Davis-Bacon Act, business agents, organization and jurisdiction of crafts; and work rules.

Prerequisite: EGTG2210 Technical Communications.

EGTC3274

3 Credits

Advanced Structural Analysis

Elastic analysis of statically indeterminate structures using force and deformation methods.

Prerequisite: EGTG2228 Strength of Materials.

Spring

EGTC4241

3 Credits

Lecture 2 hours; Laboratory 2 hours

Soil Mechanics

The mechanics of soil and rock masses as applied to construction, with emphasis on footing and pile foundations, retaining walls, bulkheads, fills, embankments and the control of landslides. Identification, classification and testing of the physical properties of soils. Prerequisite: EGTG2228 Strength of Materials.

Fall

EGTC4242

3 Credits

Foundations

Design of concrete and reinforced concrete footings and foundations and retaining walls. Bearing, friction and combined pile, pile caps and sheet piling. Prerequisite: EGTC4241 Soil Mechanics.

Spring

EGTC4260

3 Credits

Contracts and Specifications

A study of codes and specifications required in engineering contracts. General contracts, sub-contracts, construction management contracts. Contract Law. Prerequisites: EGTC1245 Construction Materials and Systems and EGTG2210 Technical Communications.

Spring

EGTC4263, EGTC4264

6 Credits (3 Credits Each Semester)

Lecture 2 hours; Laboratory 2 hours

Project Management and Control I and II

The use and management of equipment, personnel and materials for construction projects. Planning and control through the use of methods involving CPM, bar charts, purchasing, PERT and construction models. Labor relations and safety requirements (OSHA). Prerequisite: EGTC3261 Estimating I or approval of adviser. EGTC4263 Project Management and Control I is a prerequisite for EGTC4264 Project Management and Control II.

Fall (EGTC4263), Spring (EGTC4264)

EGTC4265

3 Credits

Construction Practices I

Earthmoving, compaction and soil improvement. Construction dewatering, temporary and earth-retaining structures. Rock drilling and explosives in construction. Construction inspection and quality-control assurance. Equipment selection and production. Temporary erosion control. Construction safety and jobsite procedures. Prerequisite: Seventh-semester standing or approval of adviser.

Fall

EGTC4266

3 Credits

Construction Practices II

Concrete practice: mixing, placing and curing. Concrete framework and form design. Paving and surfact treatments. Masonry, wood and steel construction practices. Compressed air and water systems. Lifting and rigging. Introduction to Green Building, LEED (Leadership in Energy and Environmental Design) certification and sustainable construction. Stormwater management and water quality. Prerequisite: EGTC4265 Construction Practices I or approval of adviser.

Spring

Engineering Technology

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EGTC4272

3 Credits

Lecture 2 hours; Laboratory 2 hours

Advanced Steel Design

Design of a complete structural steel frame building including beams, floors, columns and connections; preparing design notes, structural drawings and structural drawings in accordance with codes, industry standards and AISC. LRF method used. Prerequisite: EGTC3256 Steel Structures.

Spring

Fee

EGTC4276

3 Credits

Advanced Concrete Design

Design of a complete reinforced concrete building including beams, girders, slabs, columns and footings; preparing set of design notes, structural drawings and shop drawings. All in accordance with codes, industry standards and ACI. Prerequisite: EGTC3257 Concrete Structures.

Spring

EGTC4320

3 Credits

Highway Design

Highway and urban transportation systems. Organizations and associations. Planning. Driver, vehicle, traffic and road alignment, sight distances. Intersection and interchange design. Drainage details. Earthwork: calculations of volumes. Materials for roads and surfaces, bearing qualities. Computer applications. Term and laboratory projects assigned. Prerequisites: EGTC1206 Surveying II, EGTC3257 Concrete Structures and EGTG4254 Fluid Mechanics.

EGTC4321

3 Credits

Bridge Design

Loads. Maximum moments and shear in simple and continuous spans. Steel bridges: floor systems, concrete and steel floors. Beam and plate-girder bridges. Truss, concrete and prestressed concrete bridges. Railing design. Railroad bridges. Steel-plate-deck bridges, economic considerations. Box girders. Computer applications. Term project assigned. Prerequisite: EGTG2228 Strength of Materials.

EGTC4322

3 Credits

Hydraulic Design

Fluid flow in pipes, consideration for sewage and sludge. Special flow problems: culvert design and analysis, series and parallel pipe systems, pipe network. Drainage problems. Flow-measuring devices. Hydraulic machines, types of pumps. Open-flow channel, weirs, retention basins. Computer applications. Term and laboratory projects assigned. Prerequisite: EGTG4254 Fluid Mechanics.

EGTC4323

3 Credits

Seismic Design

Response of simple structures to earthquake motions. Design: general considerations. Lateral forces. Seismic forces for overturning moments and shear distribution. Damping. Horizontal and vertical excitation. Curtain wall buildings. Core walls. Detailing and quality control/computer applications. Prerequisites: EGTC3257 Concrete Structures and EGTG3431 Dynamics.

EGTC4384

1 Credit

Lecture 1 hour; Laboratory 1 hour

Construction Technology Design Project

Students will be assigned a project with the approval of the school director and to be conducted under the supervision of a faculty member. Oral presentation. Prerequisites: EGTC4241 Soil Mechanics, EGTG4263 Project Management and Control I, EGTG2210 Technical Communications and eighth-semester standing.

Fee

EGTC4385

1 Credit

Lecture 1 hour; Laboratory 1 hour

Civil Technology Design Project

Students will be assigned a project with the approval of the school director and to be conducted under the supervision of a faculty member. Oral presentation. Prerequisites: Senior standing and EGTG2210 Technical Communications.

Fee

General Technology

EGTG2201

3 Credits

Applied Calculus I

Applied differential and integral calculus stressing engineering applications. Prerequisite: MATH1107 Precalculus.

EGTG2202

3 Credits

Applied Calculus II

Continuation of applied integration and introduction to functions of several variables. Emphasis on engineering applications. Prerequisite: EGTG2201 Applied Calculus I or MATH1201 Calculus I.

EGTG2205

3 Credits

Applied Ordinary Differential Equations

Introduction to linear ordinary differential equations, Laplace transforms and Fourier analysis. Prerequisite: EGTG2202 Applied Calculus II or MATH2202 Calculus II.

EGTG2210

3 Credits

Technical Communications

Overview of the writing, editing, research and design principles of technical and professional communication. Students will learn how to gather, organize and present information effectively. Course includes business and technical documentation, including online tools; oral reports and public speaking; teamwork and participation in group meetings; use of visuals to communicate material; professional, ethical and social responsibilities; and research techniques using the library and the internet.

Prerequisite: ENWR1001 Composition I:

Rhetoric and Inquiry.

Fall, Spring

EGTG2215

3 Credits

4 Contact Hours

Circuits I

Circuit laws and theorems, DC circuits, inductance, capacitance.

Fall

EGTG2221

3 Credits

Statics

Statics of particles and rigid bodies, equivalent force systems, equilibrium of rigid bodies, centroids and center of gravity, analysis of trusses and frames, forces in beams and machine parts, friction and moments of inertia. Prerequisite: PHYS2101 General Physics I.

Fall

EGTG2228

3 Credits

Lecture 2 hours; Laboratory 2 hours

Strength of Materials

Shear, moments, stresses, bending, torsional shear, moment and shear diagrams, deflections, stress strain, bolted and welded joints, combined loading and column. Prerequisite: EGTG2221 Statics.

Spring

Fee

EGTG2265

3 Credits

Lecture/Laboratory 4 hours

Electronics I

Basics of operational amplifiers. Selected operational amplifier applications. Selected integrated circuits and their applications. Integrated laboratory experience. Prerequisite: EGTE2216 Circuits II or permission of instructor. (Equivalent to EENG3265 Electronics I.)

EGTG2286

3 Credits

Lecture/Laboratory 4 hours

Digital System Design

Binary codes, gates and flip-flops, registers and counters, adders and ALUs, analysis and design of combinational and sequential circuits.

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Logic simulation. Logic families. Integrated laboratory experience. (Equivalent to ENGR2286 Digital System Design.)

Fall, Spring

Fee

EGTG3211, EGTG3212

3 Credits

Materials Technology I, II

A two-course sequence covering properties of metals and alloys, semiconductors, ceramics, glasses and polymers. Crystal structure, structural defects, alloying and phase diagrams. (Must be taken in proper sequence.) Prerequisites: PHYS2101, PHYS2102 General Physics I, II.

Fall (EGTG3211)

EGTG3225

3 Credits

Lecture 2 hours; Laboratory 2 hours Instrumentation

Introduction to the design of instrumentation systems. Study of thermal, mechanical, optical and magnetic sensor operation and applications. Design of analog and digital signal conditioning. Introduction to data-acquisition systems. Laboratory experimentation involving the design, bread-boarding and testing of signal-conditioning circuits and a selection of sensors and their applications. Prerequisites: EGTG2201 Applied Calculus I or MATH1201 Calculus I and EGTG2265 Electronics I.

Spring

Fee

EGTG3351

3 Credits

Lecture 2 hours; Laboratory 2 hours Applied Thermodynamics

Introduction to the basic concepts of thermodynamics. Applications of gas and steam cycles to open- and closed-loop systems, such as gasoline and diesel engines, and steam turbines. Principles of refrigeration and air conditioning. Prerequisites: PHYS2101, PHYS2102 General Physics I, II.

Spring

Fee

EGTG3431

3 Credits

Dynamics

Kinematics, kinetics, linear, angular, plane motion. Work, energy, power, impulse and momentum. Prerequisite: EGTG2221 Statics.

Spring

EGTG4001

2 Credits

3 Contact Hours

FE/EIT Exam Preparation I

First part of a two-course sequence that helps prepare students for the Fundamentals of Engineering/Engineer in Training (FE/EIT) Exam. This course serves as a review class and may include material not covered in the first three years of students' curricula. Prerequisite: senior standing.

Fall

EGTG4002

1 Credit

2 Contact Hours

FE/EIT Exam Preparation II

Second part of a two-course sequence that helps prepare students for the Fundamentals of Engineering/Engineer in Training (FE/EIT) Exam. This course serves as a review class and may include material not covered in the first three years of students' curricula. Prerequisite: EGTG4001 FE/EIT Exam Preparation I or approval of adviser.

Spring

EGTG4221

3 Credits

Engineering Statistics and Reliability

Statistics, regression, probability. Normal distribution. Poisson distributions and reliability as applied to engineering decisions, performance and quality control. Corequisite: EGTG2202 Applied Calculus II or MATH2202 Calculus II or permission of instructor.

Spring

EGTG4224

3 Credits

Lecture 2 hours; Laboratory 2 hours Process and Electro/Mechanical Control Systems Technology

The theory, components, operation and design of process and electro/mechanical control systems. Laboratory experimentation involving the design, simulation and testing of control-system components and complete systems. Prerequisites: EGTG2202 Applied Calculus II and EGTG3225 Instrumentation (or permission of instructor).

Fall

Fee

EGTG4225

3 Credits

Lecture 2 hours; Laboratory 2 hours Industrial Automation

Manufacturing systems and their mechanization: design and analysis on control systems for production, materials handling and inventory logistics. Manufacturing automation and robotics technologies (requirements analysis and design). Electromechanical hardware and computer control. Economics of robotics and machine vision. Prerequisite: EGTG4224 Process and Electro/Mechanical Control Systems Technology (or permission of instructor).

Spring

Fee

EGTG4254

3 Credits

Lecture 2 hours; Laboratory 2 hours Fluid Mechanics

Applied fluid mechanics, applications of hydraulic and pneumatic control amplification and power circuits. Introduction to fluidics. Prerequisites: PHYS2101, PHYS2102 General Physics I, II.

Fall

Fee

EGTG4269

3 Credits

Management and Engineering Economics

Concepts and techniques to evaluate the worth of technical systems, products and services in relation to their cost. Time value of money, cash flow equivalence, economic decision making among alternative courses of action, depreciation and taxes, replacement and break-even analysis. Prerequisite: EGTG2202 Applied Calculus II or MATH2202 Calculus II or permission of instructor. (Equivalent to ENGR4210 Managerial and Engineering Economic Analysis.)

Fall

EGTG4340

3 Credits

Manufacturing Systems

An engineering-design approach to optimizing a manufacturing system. Includes robotics, automation, just-in-time manufacturing for intermittent and continuous structures.

EGTG4391

3 Credits

Current Topics in Engineering Technology

Study of special topics of current interest in the area of engineering technology.

EGTG4432

1-3 Credits

Selected Studies in Engineering Technology

Studies in an area of engineering technology.

EGTG4498, EGTG4499

3 Credits Each Semester

Co-op in Engineering Technology

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills. Prerequisite: permission of director of co-op.

Fall, Spring

EGTG4800

1-3 Credits

Independent Study in Engineering Technology

Independent study under the direction of a specific faculty member after consultation with the school director.

EGTG4875

3 Credits

Honors: Engineering Technology

Independent study in engineering technology for students in the University Honors Program under the direction of a specific faculty member with the approval of the school director.

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Electrical Engineering Technology

EGTE2216

3 Credits

Lecture 2 hours; Laboratory 2 hours

Circuits II

Complex numbers, phasors, sinusoids, AC circuits, resonance, transformers, three-phase circuits, operational amplifiers. Prerequisite: EGTG2215 Circuits I.

Spring

Fee

EGTE2287

3 Credits

Lecture/Laboratory 4 hours

Microprocessor System Design I

Introduction to microprocessors and microcomputers. Software architecture of processors: memory, addressing, data types, register organization. Assembly-language programming and debugging. Integrated laboratory experience. Prerequisite: EGTG2286 Digital System Design.

Fall

Fee

EGTE3049

3 Credits

Lecture 2 hours; Laboratory 2 hours

Fiber Optics Technology

The principles and applications of fiber optic technology. Review of optical laws; light propagation in a fiber. Fiber characteristics. Principles of fiber optic communication. Fiber optic components. Optical sources for communication, optical detectors. Design of a fiber optic communication system. Fiber sensors. Prerequisite: EGTG4049 Optical Technology II.

Fee

EGTE3051

3 Credits

Lecture 2 hours; Laboratory 2 hours

Laser Technology

Principles and applications of laser technology. Physical basics of lasers. Laser characteristics. Gas lasers, solid-state lasers, semiconductor lasers, laser accessories. Low-power laser applications. High-power laser applications. Laser safety. Prerequisite: EGTG4049 Optical Technology II.

Fee

EGTE3266

3 Credits

Lecture/Laboratory 4 hours

Electronics II

Diodes and circuit applications. Bipolar junction transistors and field effect transistors and their circuit applications. Low-frequency amplifiers using small-signal models. Biasing, integrated laboratory experience. Prerequisite: EGTG2265 Electronics I or permission of instructor. (Equivalent to EENG3266 Electronics II.)

EGTE3267

3 Credits

Lecture/Laboratory 4 hours

Electronics III

Integrated circuit-building blocks. Multistage, differential and power amplifiers. Frequency response. Feedback. Oscillators. Digital electronics. Integrated laboratory experience. Prerequisites: EGTE2216 Circuits II and EGTG3266 Electronics II. (Equivalent to EENG3267 Electronics III.)

EGTE3288

3 Credits

Lecture/Laboratory 4 hours

Microprocessor System Design II

Microprocessor and microcomputer architectures. Input/output, interrupts and timers. Programming of parallel ports, serial communication interfaces. Integrated laboratory experience. Prerequisite: EGTE2287 Microprocessor System Design I.

Spring

Fee

EGTE3439

3 Credits

Lecture 2 hours; Laboratory 2 hours

Computer-assisted Circuits

Computer analysis of various circuits using PSPICE and other software packages, analysis of resonant circuits, operational amplifiers, passive filters, active filters, detailed theoretical and computer analysis of Bode plots and Fourier analysis. Prerequisite: EGTE2216 Circuits II.

EGTE4047

3 Credits

Lecture 2 hours; Laboratory 2 hours

Optical Technology I

Geometrical optics. Laws of reflection and refraction. Image formation by lenses and mirrors. Optical instruments. Physical optics, waves and superposition. Interference and diffraction of light. Applications in modern technology, such as fiber optics. Prerequisites: EGTG2201, EGTG2202 Applied Calculus I, II and PHYS2101, PHYS2102 General Physics I, II.

Fee

EGTE4049

3 Credits

Lecture 2 hours; Laboratory 2 hours

Optical Technology II

Wave optics. Polarization: fiber-optic system design. Fiber-optic components. Optical sources. Optical detectors. Fiber-optic communication. Fiber sensors. Applications of diffraction theory. Holography. Matrix treatment of simple optical systems. Prerequisite: EGTG4047 Optical Technology I.

Fee

EGTE4052

3 Credits

Lecture 2 hours; Laboratory 2 hours

Optical Measurements and Test Equipment I

Principles and applications of modern optical-test procedures. Basic principles of light measurement. Photometric measurement; radiometric measurement. Basic optical instruments: microscope, telescope and comparator. Prerequisite: EGTG3051 Laser Technology.

Fee

EGTE4054

3 Credits

Lecture 2 hours; Laboratory 2 hours

Optical Measurements and Test Equipment II

Interference methods and the interferometer optical instruments for fiber optics: OTDR, polarization, beam profile, EIA test procedures. Prerequisite: EGTG4052 Optical Measurements and Test Equipment I.

Fee

EGTE4342

3 Credits

Lecture/Laboratory 4 hours

Data Communications and Computer Networks

Data encoding and transmission, error detection and correction, data encryption and network security. Network architecture and model. Circuit and packet switching, optimal routing, wide and local area networks, internet protocols. Integrated laboratory experience. Prerequisite: completion of sixth semester or permission of instructor.

Fall

Fee

EGTE4345

3 Credits

Microwave Technology

A study of microwave devices, techniques and applications. Topics include transmission lines, Smith charts, generation and detection of microwave devices. Prerequisite: EGTG2202 Applied Calculus II.

EGTE4381

3 Credits

Computer-aided Analysis and Design

Use of CAD software in analyzing and designing both analog and digital circuits. Prerequisite: completion of the sixth semester. (Equivalent to EENG4381 Computer-aided Analysis and Design I.)

EGTE4387

1 Credit

Lecture 1 hour; Laboratory 1 hour

Electrical Technology Design Project

Capstone design-project course in electrical technology. Student must be within 16 credits of graduation and have approval of project propos-

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al prior to registering. Oral presentation. Prerequisites: EGTE3267 Electronics III or permission of instructor and EGTG2210 Technical Communications.

Fee

Mechanical Engineering Technology

EGTM2252
3 Credits

Lecture 2 hours; Laboratory 2 hours
Mechanical Measurement and Devices

Study of measurement of distance, work, energy, force, pressure and thermal quantities. Use of testing machines and industrial mechanical components. Corequisite: MATH1105 College Algebra or higher.

Fall

Fee

EGTM2255
3 Credits

Lecture 2 hours; Laboratory 2 hours
Manufacturing Processes

Study of methods in manufacturing. Theory and practice of turning, machining, drilling, etc., of metals and other materials.

Spring

Fee

EGTM3248
3 Credits

Lecture 2 hours; Laboratory 2 hours
Mechanical Technology Design I

Principles of machine design, elements of stress analysis, rivets, belt and chain drives, springs and synthesis of mechanical systems, materials and their use in design. Prerequisites: EGTG2201 Applied Calculus I, EGTG2228 Strength of Materials, EGTG3431 Dynamics and PHYS2102 General Physics II.

Fall

Fee

EGTM3250
3 Credits

Lecture 2 hours; Laboratory 2 hours
Mechanical Technology Design II

Design of gears, clutches, shaft and couplings, bearings, brakes, lubrication and synthesis of mechanical systems. Prerequisites: EGTG2202 Applied Calculus II and EGTM3248 Mechanical Technology Design I.

Spring

Fee

EGTM4040
3 Credits

Lecture 2 hours; Laboratory 2 hours
Heating, Ventilation and Air Conditioning

An introduction to some of the essential knowledge required to enter the field of HVAC&R engineering. Topics include: physical principles, heating loads, hydronic piping systems and terminal units, cooling-load calculations, psychometrics, fluid flow in piping and ducts and

air-distribution devices, air conditioning systems and equipment, refrigeration systems and equipment. Prerequisite: EGTG3351 Applied Thermodynamics.

EGTM4041

3 Credits
Heating, Ventilation and Air Conditioning and Refrigeration Controls

Elements of control systems: sensors, operators, controls and control strategies (for HVAC&R) will be covered. A brief review of the processing of moist air (psychrometrics) will be offered. Finally, control systems for process control and the use of analog and direct digital controls will be applied to heating, ventilation, air conditioning and refrigeration. Prerequisite: EGTM4040 Heating, Ventilation and Air Conditioning or approval of adviser.

EGTM4356

3 Credits
Stress and Vibration Analyses

The differential equations of stress and strain, shear flow, virtual flow, energy principles, curved beams, noncircular bars. Computer-oriented problem solving. Analysis of motion arising from lateral and torsional vibration of systems, free and forced vibrations, damping, isolation, balancing. Prerequisites: EGTG2202 Applied Calculus II, EGTG2228 Strength of Materials and EGTG3431 Dynamics.

Spring

EGTM4386

1 Credit
**Lecture 1 hour; Laboratory 1 hour
Mechanical Technology Design Project**

Students will be assigned a project with the approval of the school director and conducted under the supervision of a faculty member. Oral presentation. Prerequisite: EGTG2210 Technical Communications. Corequisite: EGTM3250 Mechanical Technology Design II.

Fee

English for Professional Success (E.P.S.)

Programs in Language, Culture and Professional Advancement

EPS0097

3 Credits
Foundations of Academic English

Students will be able to recognize a speaker's attitude or position on a topic from tone of voice and vocabulary used. They will be able to paraphrase ideas encountered in a lecture situation or a reading passage and be able to cite the

source of those ideas. Having taken a position on a topic, they will be able to speak and write persuasively on the topic. Students will be able to conduct interviews for research purposes, perform assigned web quests constructed by the instructor and post messages on a dedicated electronic bulletin board on a regular basis as assigned. They will demonstrate an understanding of American attitudes toward degree and quantity by using correct expressions of comparison, number and extent.

EPS0098

3 Credits
Practical Academic English

Students will be able to comprehend long lectures, conversations, narratives and debates; to summarize the main ideas orally and in writing; to take a stand on the topic and express that position orally and in writing; to solicit opinions on a topic; to report and compare those opinions orally and in writing; to express complex cause-and-effect relationships using conventional essay formats; and to make inferences from lecture materials and readings. Students will be able to read classmates' work for the purpose of editing. They will use the web to conduct research for oral reports and written assignments. Students will demonstrate an understanding of American attitudes toward private property, both material and intellectual, by using proper possessive forms and by employing acceptable annotation conventions for citing sources of information in written work.

EPS0099, EPS0199

4.5 + 1.5 Credits
Academic Writing Skills

Students will be able to understand more subtle attitudes of a speaker or writer such as irony, sarcasm and humor. They will be able to debate a point, give and solicit advice and present an extended oral report based on lectures and/or research. They will recognize the difference between fact and opinion and will be able to identify different types of essays. Students will be able to write argumentatively and to read their own work objectively for editing and to attach and send written assignments to a class/partner for editing. Students will demonstrate an understanding of the American attitude toward specificity by correctly using both physical and lexical reference indicators orally and in writing.

EPS1008, EPS1018

4.5+1.5 Credits
**Lecture 6 hours; Laboratory 3 hours
Academic Writing Skills;**

Academic Communication Skills
Non-native English-speaking students will be exposed to more subtle attitudes of a speaker or writer in different genres. They will recognize the difference between fact and opinion. Students will be able to write argumentatively and to read their own work objectively for edit-

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ing. They will demonstrate an understanding of the American attitude toward specificity. In addition, students will maintain a portfolio of work and participate in self reflection. EPS1018 is a corequisite lab for EPS1008 where students engage in critical reading and thinking, as well as speaking activities. Class activities may include academic debates and persuasive presentations.

EPS1109, EPS1119

3+1 Credits

Lecture 3 hours; Laboratory 1.5 hours English for Occupational Purposes; English for Academic Purposes

Non-native English-speaking students will focus on English proficiency for occupational purposes. Students will develop their skills in professional writing, oral communication, research and information literacy, group collaboration and cross-cultural competencies. EPS1119 is a corequisite lab for EPS1109 where students will focus on English proficiency for academic purposes. Students will develop their skills in academic research and writing and proficiency with APA and/or MLA format.

EPS1201

3 Credits

English for Professional Success: Global Exchange — New York City as a Classroom

Perceived through the prisms of cultural ethnography and the significance of everyday experiences, this course will utilize New York City as a resource and a classroom to study cross-cultural understandings and misunderstandings. Students will study the multicultural aspects of the city in the context of modern life and situate their findings within a historical context. In addition to studying cross-cultural issues in context, students will be improving their academic-language skills while exploring topics of interest through a variety of activities and assignments. The course satisfies the language and culture requirements for international and domestic students.

Experiential learning fees apply

English Language and Literature

School of the Humanities

ENGL1103

3 Credits

English Masters

Representative selections of British literature from Chaucer to the present.

ENGL1104

3 Credits

American Masters

Representative selections of American literature from the 19th and 20th centuries.

ENGL2000

3 Credits

Literary Analysis

This course introduces students to the vocabulary, techniques and critical theories involved in reading and writing about literature. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2004

3 Credits

Introduction to Fiction

This course, intended for non-majors and majors, is designed to develop the students' appreciation and understanding of fiction. Reading and interpretation of novels will be the central focus of this introductory-level course. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2005

3 Credits

Introduction to the Short Story

The short story can be claimed as an American art form, created by writers who began to develop the genre at the beginning of the 19th century. The course will present representative short stories and draw upon literary theory and biography to supplement the literary analysis. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2108

3 Credits

Global Literature

The course examines works of fiction, drama and nonfiction as well as film and visual art to consider creative voices from Africa, Asia, Europe, Latin America and the United States. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2140

3 Credits

African-American Literature

The course will offer a survey of literature from spirituals and folktales through contemporary writers like Alice Walker and Toni Morrison. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2201

3 Credits

Masterpieces of World Literature I

Representative works of world literature focusing on the ancient classics.
Fall, Spring

ENGL2202

3 Credits

Masterpieces of World Literature II

Representative works of world literature from the Middle Ages to the 20th century.
Fall, Spring

ENGL2203

3 Credits

British Literature I

A survey of the literature of Britain from *Beowulf* to the 18th century. Prerequisite: ENWR1002 Composition II: Research and Argument.
Fall

ENGL2204

3 Credits

British Literature II

A survey of the literature of Britain from the 18th century to the modern period. Prerequisite: ENWR1002 Composition II: Research and Argument.
Spring

ENGL2205, ENGL2206

6 Credits (3 Credits Each Semester)

Introduction to Critical Writing I, II

The foundation for all further advanced courses in English: an exercise in critical writing through the study of works unified by a common theme, topic or genre. Students may take either one or two semesters of this course. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2207

3 Credits

Oral and Written Reports

Oral and written reporting techniques appropriate to business. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL2357

3 Credits

Introduction to Irish Literature

This course will be an opportunity for students to become acquainted with the nature of Irish literature, beginning with selected pieces of mythology and folk tales. Various genres will be covered including such authors as William Carleton, James Joyce, Liam O'Flaherty, W.B. Yeats, Frank O'Connor, Mary Lavin, Brian Friel and Edna O'Brien. Various aspects of Irish culture and traditions and their impact upon the literature will be explored. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3007

3 Credits

Major British Writers I

Each semester is devoted to representative works by one or two outstanding figures whose achievement is examined, not only for its intrinsic quali-

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ties but also for its profound reflection of the dynamics of an age. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3008

3 Credits

Major British Writers II

Each semester is devoted to representative works by one or two outstanding figures whose achievement is examined, not only for its intrinsic qualities, but also for its profound reflection of the dynamics of an age. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3024

3 Credits

Studies in Poetry

Intensive readings of poems from various periods and poets, with emphasis on the mastery of poetry as a form. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3044

3 Credits

The Environment in Literature and Culture

In the 21st century, the national environment has become a source of global concern. The impact of human activity on water, air and land is reflected in and represented by the stories created about the environment. The class will read literary narratives of the environment emerging through United Nations policy papers, news reports, documentaries, photographs and artwork. Such comparative and intertextual readings will help students understand not only how they construct their relations to the environment but will also enable them to conceive of reconstructing future alternatives. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3047

3 Credits

American Nature Writers

A study of the literature concerned with the changing relationship of Americans to nature. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3049

3 Credits

Major American Writers I

A study of selected major figures, themes and genres. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3050

3 Credits

Major American Writers II

A study of selected major figures, themes and genres. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3053

3 Credits

Shakespeare and Film

While Shakespeare's plays have been put on film since the invention of movies, recent years have witnessed a great increase in the production of Shakespeare movies as demonstrated by popular mainstream productions of "Othello," "Hamlet," "A Midsummer Night's Dream," "Twelfth Night" and "Romeo and Juliet." Made in a variety of production styles, these films have attracted a good deal of academic attention through college courses, articles, books and entire journals devoted to the subject. This course will cover a number of plays from text to realization on film and ask students to consider issues of cinematic and literary style. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3056

3 Credits

Modernism

Introduction to the literary theory, form and style of modernism, a literary movement which dominated the first half of the 20th century and continues to exert its influence over literature today, which, tellingly, is described by the label post-modernism. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3060

3 Credits

Post-modern Literature

The Post-modern Age started a decade or two after World War II and continues to shape culture. Through consideration of a range of fiction, films, drama, poetry and essays from around the world, students will confront the challenges posed by post-modernism with its multiple voices, deeply ironic sense of humor, self-conscious storytelling and a richly allusive range of references to past literature and culture. Examination of the relationship of popular culture with high culture will place these works in context. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3076

3 Credits

Special Stories — Super Cinema

This course will examine the relationship between several well-known novels and their popular movies. Genre, style and plot will be discussed. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3131

3 Credits

20th-century American Worker in Literature

Students will explore American novels focusing primarily on the world of work in America during the first half of the 20th century. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3200

3 Credits

English Grammar

A study of the basics of grammar with emphasis on its relevance to clear and correct writing. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3307

3 Credits

20th-century Literature

The major American, British and continental writers of the 20th century viewed within the context of the literary, social, political and scientific forces that shaped them. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3315

3 Credits

American Jewish Novel

American Jewish literature from its beginnings through World War II to the present with some attention to Israeli fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3321

3 Credits

Psychological Fiction

Depth psychology (psychoanalysis) as a means to determine the motivations of characters in works by such authors as Melville, Kafka, Mann and Hesse. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3322

3 Credits

Psychological Novel II

Depth psychology (psychoanalysis) as a means of determining the motivation of character in works by such authors as Hawthorne, Conrad, Camus and others. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3323

3 Credits

Advanced Composition

English composition for students who wish to improve their writing skills by continued practice in the four types of writing — descriptive, narrative, expository and argumentative. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3324

3 Credits

Women in Literature

A course that explores poetry and fiction by and about women. Of particular focus will be issues of class, sexuality, race and gender relations as they impact the issues and concerns that shape women's literature. Prerequisite: ENWR1002 Composition II: Research and Argument.

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ENGL3325

3 Credits

Creative Writing I (Fiction)

Workshop providing sustained practice in individual projects in fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3326

3 Credits

Creative Writing II (Fiction)

A continuation of creative writing workshop providing sustained practice in individual projects in fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3327

3 Credits

Creative Writing I (Poetry)

Workshop providing sustained practice in individual projects in poetry. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3328

3 Credits

Creative Writing II (Poetry)

A continuation of creative writing workshop providing sustained practice in individual projects in poetry. Prerequisite: ENGL3327 Creative Writing I (Poetry).

ENGL3329

3 Credits

Advanced English Grammar

Advanced grammar providing a transition between the prescriptive approach and modern descriptive grammar. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3333

3 Credits

Creative Writing I (Nonfiction)

Workshop in writing that deals in a variety of modes (e.g., narration, description and exposition) with real people, events, relationships and experiences. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3334

3 Credits

Creative Writing II (Nonfiction)

Advanced writing workshop that deals in a variety of modes (e.g., narration, description and exposition) with real people, events, relationships and experiences. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3335

3 Credits

Creative Writing I (Scriptwriting)

Workshop dedicated to the craft of scriptwriting, practicing the elements of drama (plot, character, dialogue) through writing exercises for the stage and screen. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3336

3 Credits

Creative Writing II (Scriptwriting)

Workshop dedicated to the craft of scriptwriting, focusing on the elements of drama (plot, character, dialogue) and culminating in a one-act script. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3337

3 Credits

Creative Writing I (Cross-genre)

A themed workshop in creative writing and craft-focused reading, dedicated to providing students with an opportunity to work with at least two of the four major forms: prose/fiction, poetry, scriptwriting and nonfiction. Themes will be decided by the individual professors and announced in the School of the Humanities course listings. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3338

3 Credits

Creative Writing II (Cross-genre)

A workshop in creative writing and craft-focused reading, dedicated to providing students with an opportunity to experiment with all four major forms: prose/fiction, poetry, scriptwriting and nonfiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3351

3 Credits

Medieval Literature

Medieval European literature in translation, featuring medieval epic and romance (especially Arthurian), and writers such as Dante and Boccaccio. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3353

3 Credits

Chaucer

Selections from *The Canterbury Tales* and/or Chaucer's other major works. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3355

3 Credits

Renaissance Literature

Tudor prose and poetry from More, Skelton and Wyatt to the age of Sidney, Spenser and Shakespeare. Humanism in England and its Continental sources. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3357

3 Credits

Shakespeare I

Critical analysis of representative early plays. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3358

3 Credits

Shakespeare II

Critical analysis of representative later plays. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3359

3 Credits

17th-century Literature

The major poetry and prose studied in relation to the significant political, religious and literary issues of the period. Authors such as Donne, Jonson, Herbert, Marvell, Milton, Dryden, Bacon, Browne, Burton, Bunyan and Hobbes will be included. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3361

3 Credits

Milton

A study of Milton's artistic development in relation to the various poetic styles and literary influences of the late Renaissance. Concentration on *Paradise Lost* and *Samson Agonistes* with some attention given to the major prose and the lyric poetry. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3363

3 Credits

18th-century Literature

A study of 18th-century literature with emphasis on the satires of Swift and others. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3364

3 Credits

18th-century Literature II

The age of Johnson.

ENGL3365

3 Credits

The Romantic Era I

The English Romantics, with special attention to Blake, Wordsworth and Coleridge. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3366

3 Credits

The Romantic Era II

The English Romantics, with special attention to Shelley, Keats and Byron. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3367

3 Credits

The Victorian Era I

Mid-19th-century literature: poetry, prose and fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

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ENGL3368

3 Credits

The Victorian Era II

Late 19th-century literature: poetry, prose and fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3369

3 Credits

American Literature I

A chronological study of American literary history beginning with the colonial figures and concentrating on Puritanism, Unitarianism, Romanticism and transcendentalism. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3370

3 Credits

American Literature II

A chronological study of American literary history, with an emphasis on such modern developments as realism, naturalism, Freudianism and existentialism. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3371

3 Credits

Modern Novel I

The American, English and Continental novel to World War II. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3372

3 Credits

Modern Novel II

The American, English and Continental novel since World War II. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3373

3 Credits

Modern Poetry I

Selected works of significant American and British poets, including W.B. Yeats and T.S. Eliot. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3374

3 Credits

Modern Poetry II

Selected works of significant American and British poets, including Wallace Stevens and Ted Hughes. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3375

3 Credits

Modern Drama I

Continental, English and American drama from Ibsen through Shaw. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3376

3 Credits

Modern Drama II

Continental and British drama from Pirandello and Lorca to the present. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3377

3 Credits

The Bible and Its Influence

The Bible as a collection of many types of literature, read from a literary point of view. Novels, dramas and poems influenced by the Bible. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3042 The Bible and Its Influence.)

ENGL3380

3 Credits

Literature of War

A variety of literary forms and genres addressing warfare, its impact and aftermath. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3381

3 Credits

Popular Fiction

Course in diverse genres that reflect popular culture and taste, both in the United States and throughout the world. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3382

3 Credits

Special Topics in Black Literature

Writings by authors of African descent from various historical periods and regions, in English or English translation. Particular offerings may be unified around social or cultural themes, historical periods or aesthetic approaches. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3383

3 Credits

Ethnic Literature in the United States

A study of works that reflect the ethnic, cultural and religious diversity of America. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3384

3 Credits

Postcolonial Literature

Selected works from the literatures of former European colonies: African, Indian, Caribbean, Australian, Canadian, Latin American, etc. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3385

3 Credits

Literary Theory

Study in and application of selected theories of literature from Plato to poststructuralism and

cultural studies. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3386

3 Credits

Special Topics in British or American Literature

Course in selected works from British and American literary tradition. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3387

3 Credits

Special Topics in World Literature

Course in selected works from literary traditions outside Britain, the United States and Europe. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3388

3 Credits

Regionalism in American Literature

A study of American writers who thematically reflect the American terrain in their works. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3389

3 Credits

The Global Novel

A study of some of the pertinent writers on the international scene. Works reflecting the cultures of several countries will be included. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3390, ENGL3391

6 Credits (3 Credits Each Semester)

Contemporary Fiction I, II

A study of major developments in the forms and themes of fiction since the 1960s with emphasis on the last 20 years. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3392

3 Credits

International Literature

A study of international writers of the past century whose works reflect both their specific cultures and universal concerns. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3394

3 Credits

Travel Literature

Travel writing as a unique literary expression; the travel writer as observer and cultural influence. Prerequisite: ENWR1002 Composition II: Research and Argument.

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ENGL3396

3 Credits

South-African Literature, Sex, Politics

This course will explore the depictions of select countries or regions of the African continent in a variety of different types of text written by Africans and by newcomers or outsiders to Africa. The aim will be to gain a sense of the diversity and multiplicity of “Africans” as created by writers from different points of views, with different relationships to Africa at different times. Students will read from among diaries, memoirs, travel narratives, works of journalism, movies, popular magazines and may also sample music and films. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3399

3 Credits

Continental Drift: Sex, Gender and Family in the South Asian Diaspora

A political and cultural study of literary and autobiographical works created by two generations of South Asians (including Salman Rushdie and Jhumpa Lahiri) who have chosen to make their lives and careers beyond the sub-continent. The course centers on urban, cosmopolitan and transnational stories, novels and films in English and touches upon topics such as gender roles, courtship, marriage, reproduction and child-rearing. *FDU NetID (formerly Webmail) account required.* Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3399 Continental Drift: Sex, Gender and Family in the South Asian Diaspora.)

ENGL3409

3 Credits

Glorious and Shame: America on Film

Film adaptations — many Academy Award winners — such as “The Heiress” (class and greed in the 1910s), “Paths of Glory” (World War I), “Inherit the Wind” (evolution vs. creationism in the 1920s), “The Grapes of Wrath” (the Depression), “Elmer Gantry” (political corruption), “From Here to Eternity” (pre-World War II), “Watch on the Rhine” (World War II), “To Kill a Mockingbird” (racial justice, 1950s), “The Crucible” (McCarthyism, 1950s), “A Raisin in the Sun” and “Malcolm X” (black history), “Hair” (1960s rebellion) and “Kramer vs. Kramer” (family and gender identity, 1970s). Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3410

3 Credits

Modern Novels on the Screen

A close critical study of the novels goes hand in hand with an analysis of screen adaptations, including an examination of the various possibilities and limitations of the two media. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3430

3 Credits

Contemporary African Literature

A sampling of writers from Africa, concentrating on the postcolonial experience. Students will read writers from a variety of cultures, in English or English translation, and in a variety of genres (fiction, drama, poetry, folktales and memoirs). Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3451

3 Credits

The Art of the Short Story

What distinguishes a short story from a novel? Starting with Chekhov, Joyce and Mansfield, the course moves to consider contemporary writers focusing on the very different ways writers have used this form. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3500

3 Credits

Junior/Senior Integrative Seminar

A multidisciplinary course focusing primarily on literary texts written in English but also integrating works from at least two other disciplines. Prerequisites: ENWR1002 Composition II: Research and Argument and junior or senior standing.

ENGL3600

3 Credits

Literary Basics

This course offers a solid foundation in literary genre, technique and terminology. Highly recommended but not limited to students pursuing a teaching career. The course will provide critical background for passing the PRAXIS exam. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4400

3 Credits

Postcolonial Shakespeare

This course discusses four of Shakespeare’s plays: *The Merchant of Venice*, *Othello*, *Antony and Cleopatra* and *The Tempest*. The approach to these plays is through the use of postcolonial perspectives, foregrounding the concerns of a Renaissance world faced with changes brought about by exploration, travel and colonization, slavery and freedom and a new sense of “us” and “them” among them. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4403

3 Credits

Writing Seminar I

Special writing projects to be determined by the instructor. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4404

3 Credits

Writing Seminar II

A continuation of ENGL4403 Writing Seminar I. Prerequisites: ENGL4403 Writing Seminar I and ENWR1002 Composition II: Research and Argument.

ENGL4406

3 Credits

Interdisciplinary Study in Humanities

Literature integrating fine arts, history and philosophy. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4420

3 Credits

Contemporary Psychological Novel

A psychosocial study of some of the leading figures in American, Canadian and European fiction who have emerged since World War II, with special emphasis on the last 20 years. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4433

1–3 Credits

Selected Studies in English and American Literature

Studies in an area of English and American literature. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4436

3 Credits

Nobel Prize: Authors

Short selections from the world’s most honored authors: Yeats, Eliot, Sachs, Neruda, Tagore, Mistral, Solzhenitzen, Camus, Beckett, Soyinka, Milosz and Mahfouz. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4445

3 Credits

Caribbean Literature

Focuses on the work of representative writers from the English-speaking Caribbean. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4447

3 Credits

“The Tempest:” Music Rich and Strange

Shakespeare’s last play (1611) is full of strange music, wild seas, magic, slavery, native inhabitants, romantic young lovers and a wide variety of ambitious nobles. After discussing the play, the class will study its film and animated versions, keeping in mind themes that flow from the era of early Elizabethan exploration and colonization. Prerequisite: ENWR1002 Composition II: Research and Argument.

English Writing • Environmental Science

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

ENGL4470

3 Credits

Literature of Evil

Examination of the treatment of evil in works by major writers. Authors will include Dante, Shakespeare, Hawthorne, Emily Bronte, Dostoevsky, Melville, Graham Greene, Flannery O'Connor and Cormac McCarthy. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4498

3 Credits

Internship

Practical experience working in a business, government or nonprofit setting or in the publications field, applying academic knowledge. Academic component includes weekly journals and semester-evaluative paper and frequent interaction with department mentor. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4700

3 Credits

The Eternal Search/Struggle for Identity

This course provides the student with the vast experience of a university values seminar. The chosen texts and films have been selected to direct the student's focus on the influences (both internal and external) involved in one's emerging identity. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL4800

1-3 Credits Each Semester

Independent Study in English and Comparative Literature

Independent study under the direction of a specific faculty member after consultation with the school director. Students may take one or two semesters of this course. Prerequisites: ENGL2201, ENGL2202 Masterpieces of World Literature I, II or equivalent.

ENGL4875, ENGL4476

Variable Credits

Honors English

Independent study in English for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

ENGW4011

1 Credit

Academic Research and APA Citation

Designed for students in the social sciences, this short course features academic-research skills including how to search and evaluate online databases and websites and how to cite sources using APA format.

English Writing

School of the Humanities

All degree-seeking students take ENWR1001 Composition I: Rhetoric and Inquiry and ENWR1002 Composition II: Research and Argument to satisfy University College's six-credit writing requirement. Based on placement testing, students who would benefit from additional support are enrolled in ENWR1000 Introduction to Composition prior to ENWR1001 Composition I: Rhetoric and Inquiry.

ENWR0098

3 Credits

Fundamentals of Academic Writing I

A developmental course focusing on skills in written-language expression necessary for academic success. Emphasis on structure of standard English, basic writing processes, reading comprehension and essay writing. This is not a credit-bearing course and is offered as pass/no credit.

ENWR1000

3 Credits*

Introduction to Composition

This introductory course concentrates on the fundamental writing skills necessary for academic success. Students practice writing well-organized, sensible and grammatically sound expository prose. Particular emphasis is placed on cultivating effective processes for more thoughtful and developed writing, revising to achieve unity and coherence, and self-directed editing and proofreading for clarity and appropriateness. Students also participate in peer review and become more critical readers. Note: Students who receive a grade of C- or lower must repeat the course.

ENWR1001

3 Credits

Composition I: Rhetoric and Inquiry

This course provides students with intensive study and practice in process-oriented writing, critical reading and rhetorical inquiry. Students engage expository texts in order to describe and evaluate the choices writers make and then apply that knowledge to their own compositions. Throughout the course, students give and receive feedback, revise their work and reflect on their growth as writers. Note: Students who receive a grade of C- or lower must repeat the course.

ENWR1002

3 Credits

Composition II: Research and Argument

This course focuses on the study and practice of writing as research-based argument. As a means of arriving at and writing from committed stances, students learn to seek out, engage and interrogate a variety of sources. Students write in academic, professional and/or public forms, including academic essays and rhetorical analyses. Particular emphasis is placed on information literacy, source integration and appropriate documentation. Prerequisite: ENWR1000 Introduction to Composition or ENWR1001 Composition I: Rhetoric and Inquiry.

Environmental Science

School of Natural Sciences

Courses for Nonmajors

ENVR1001, ENVR1002

3 Credits

Lecture 2 hours; Laboratory 2 hours Introduction to Environmental Science

An introduction to aspects of biology, chemistry, geology and physics that impact the environment. The overall themes are water and its involvement in each of the sciences and natural hazards: earthquakes, volcanos, floods and hurricanes. A laboratory science elective for non-science majors.

Fee

ENVR1101, ENVR1102

3 Credits

Lecture 2 hours; Laboratory 2 hours Physical Geology

The structure and composition of the earth and the natural processes on and within it.

Fall, Spring

Fee

ENVR1105

3 Credits

Weather and Climate

A study of the dynamic atmosphere, weather and climate and how they affect the natural environment, as well as human affairs. Connections are made toward management of weather hazards, air pollution, impacts on the economy and environmental and social implications of climate change. Lectures are supplemented by current events and discussions and hands-on exercises.

*Counts as free elective credit; does not satisfy writing requirement.

French Language and Literature • Health Studies

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

ENVR1111, ENVR1112

4 Credits

Lecture 2 hours; Laboratory 4 hours

Oceanography

An introduction to physical, chemical and biological oceanography, and the geology of the sea floor, ocean sediments and beaches. Field trips.
Spring *Fee*

ENVR1123

3 Credits

Natural Hazards

The causes, locations, economics and sociology of natural hazards such as earthquakes, volcanic eruptions, landslides and severe weather. Intended to introduce the students to the science of these events and the effects that humans may have on their occurrence or impact, as well as methods for the avoidance or mitigation of their effects.

ENVR1205

3 Credits

Lecture 2 hours

The Great Pacific Northwest: Environmental Issues and Cultural Perspectives

Humans effect and are affected by natural environments. The class will study the ways in which the Pacific Coast's native and imported European cultures evolved to make use of a variety of environments, how Pacific coastal marine and forest environment are stressed by pollution and how various technologies stress or protect the natural resources upon which life depends. Corequisite: ENVR1215 The Great Pacific Northwest: Environmental Issues and Cultural Perspectives Laboratory.

ENVR1215

0 Credits

Laboratory 2 hours

The Great Pacific Northwest: Environmental Issues and Cultural Perspectives Laboratory

Experiments illustrating the topics discussed in ENVR1205 The Great Pacific Northwest: Environmental Issues and Cultural Perspectives. Corequisite: ENVR1205 The Great Pacific Northwest: Environmental Issues and Cultural Perspectives.

ENVR1800, ENVR2800, ENVR3800,

ENVR4800

Independent Study

4–24 Credits (1–6 Credits Each Semester)

Independent study in environmental sciences (undergraduate).

ENVR4821

1–3 Credits

Environmental Research

Senior-level environmental research at the Meadowlands Environmental Research Institute (MERI). An original research report is required. Open only to senior students.

French Language and Literature

School of the Humanities

FREN1101, FREN1102

6 Credits (3 Credits Each Semester)

Elementary French I and II

Conversational introduction to the language with comprehensive grammatical and phonetic explanations and the reading of simple French texts.

Fee

FREN2103, FREN2104

6 Credits (3 Credits Each Semester)

Intermediate French I and II

More advanced conversational course, taking up again and completing the earlier one, and leading to a working knowledge of the language. Reading of more complex French literary texts. Prerequisite: FREN1102 Elementary French II or equivalent.

Fee

FREN4430

1–3 Credits Each Semester

Selected Studies in French Language and Literature

Studies in an area of French language and/or literature.

Health Studies

Henry P. Becton School of Nursing and Allied Health

MEDT4501

3 Credits

American Health Care Systems

This class will examine and critically analyze the United States health care system, emphasizing the major trends and issues that have led the country to where it is today. In addition to providing a historical perspective, this course will establish a context for analyzing the current, varied approaches to health care financing, delivery and reform. While this course will focus on the U.S. health care system, the systems of other nations will be reviewed for comparison.

MEDT4502

3 Credits

Health Care Law and Policy

This class will analyze the complexity of the American health care system and the law and policy issues that must be confronted to achieve meaningful health care reform. Students will gain an appreciation of the dilemmas facing health care law and policymakers, providers, patients and how to balance cost, quality and

access. It examines specific health care organization aspects such as the medical profession, hospitals, managed-care organizations and government health care programs. This course will also discuss law and policy changes that have major impacts on American health care in the past decade.

MEDT4305

3 Credits

Global Health

This course will cover the main principles of global health and introduce the students to the world's vast diversity of determinants of health and disease. Current and emerging health priorities such as infectious diseases, socioeconomic status and health, human rights, culture and health, maternal and child health, water and sanitation, parasitic diseases, health inequities and major global initiatives for disease prevention and health promotion.

MEDT4307

3 Credits

Health Studies Practicum

The health studies practicum is the capstone course for the health studies major. The course will include an internship in the field. Current topics, scientific literature and advances in the student's area of interest will be covered in this course.

NURS2210

3 Credits

Pathophysiology

This course focuses on alterations in biologic processes that affect the body's homeostasis, including etiology, pathogenesis, clinical manifestations and treatment of selected health problems. Knowledge of basic and clinical sciences is applied to simulated, clinical, nursing-practice situations. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for Health Sciences. Corequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment and NURS2201 Health Assessment Laboratory.

NURS2217

3 Credits

Information Systems and Applications in Health Care

This course serves as an introduction to nursing and health care informatics. Course content includes an overview of computer basics, informatics, terminology, data integrity and management, informatics theory, system life cycle and clinical applications. The purpose of this course is to provide a basic understanding of nursing and health care informatics and to facilitate decision-making based upon data, information, knowledge and wisdom.

History

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

NURS3208

3 Credits

Introduction to Health Care Economics

This course introduces the student to basic economic concepts and theories to analyze selected issues/problems in health care and to inform decision making and policy development. Fiscal management and basic budgeting concepts also will be covered.

NURS3351

3 Credits

Epidemiology in Health Care

This course focuses on the study of the distribution and determinants of health and disease in human populations. Emphasis is on the natural history of disease, levels of prevention and intervention strategies. Indices of health and illness are discussed in relation to phases of the life cycle. Social policy issues are considered in relation to epidemiologic and demographic trends worldwide.

NURS3353

3 Credits

Introduction to Normal and Therapeutic Nutrition

This course will introduce nutrition students to the fundamentals of human nutrition as well as the role of dietary intervention in the treatment and management of chronic and acute medical conditions.

NURS4420

3 Credits

Health Care Management

An exploration of the current health care environment with implications for beginning-level managers. Topics to be discussed include managed care, health-care delivery models, interdisciplinary team building, resource management, case management, performance improvement and conflict resolution. Prerequisite: faculty permission.

NURS4430

3 Credits

Nursing Research

Students are introduced to the research process. The course focuses on the professional health care worker as a research consumer. Critical appraisal skills are developed as a basis for evaluating research findings for application to clinical practice. Learning activities are designed to facilitate the students' understanding of allied health research, the research-utilization process and professional-role development. Prerequisite: faculty permission.

History

School of the Humanities

HIST1114

3 Credits

U.S. History to 1865

Significant themes (e.g., Puritanism, slavery, nationalism, sectionalism) in the development of the American nation from discovery through the Civil War.

HIST1115

3 Credits

U.S. History Since 1865

Significant themes (e.g., industrialization, pragmatism, government centralization) in the development of the United States from Reconstruction to the present.

HIST1214

3 Credits

World History to 1500

Development of civilizations from prehistoric times through the oriental, classical and medieval ages. Ancient culture, government and religion. Medieval elements.

HIST1215

3 Credits

World History Since 1500

Development of civilization from the Age of Revival and the Renaissance through the Enlightenment, to the rise of nationalism and political democracy. Problems of 20th-century civilization.

HIST2102

3 Credits

Sports in America

The social history of American sports.

HIST2103

3 Credits

New Jersey History

A survey of the Garden State's history.

HIST2104

3 Credits

United States Social and Cultural History

Social and cultural currents from the colonial period to the present.

HIST2105

3 Credits

Crime in History

Crime and punishment in U.S. history.

HIST2106

3 Credits

Ethical Issues in History

Critical issues that have challenged and shaped the American mind.

HIST2107

3 Credits

U.S. Economic History

Analysis of the periods of growth of the U.S. economy. Industrial Revolution, impact of World depression and the post-industrial development.

HIST2108

3 Credits

The American Presidency

Presidents and the presidency in U.S. history.

HIST2189

3 Credits

Selected Studies in U.S. History

Studies in an area not covered by an existing course.

HIST2198

1–3 Credits

Independent Study in U.S. History

Independent study under a faculty member's supervision; requires approval of the school director and the college dean.

HIST2215

3 Credits

Constitutional History

The evolution of the United States constitution and modern challenges.

HIST2245

3 Credits

Islamic History

This course will examine the history of Islamic societies from Muhammad to the present. Major topics include the Arab conquests, Abbasid Golden Age, early modern empires, modern reform movements and the impact of globalization on the Muslim world today.

HIST2289

3 Credits

Selected Studies in World History

Studies in an area not covered by an existing course.

HIST2298

1–3 Credits

Independent Study in World History

Independent study under a faculty member's supervision; requires approval of the school director and the college dean.

HIST2518

3 Credits

China Since 1949

A history of China from the establishment of the People's Republic in 1949 to the present. Includes the Communist experiment of Mao, reforms under Deng Xiaoping and China's rise as a world power.

History

University College: Arts • Sciences • Professional Studies
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HIST2519

3 Credits

Imperialism in East Asia

A history of imperialism in East Asia since 1644, depicting China and Japan as both victims and victimizers of imperialism. Includes Western imperialism in East Asia and U.S. involvement in Korea and Vietnam.

HIST3101

3 Credits

American Immigration

Immigration and its impact on American development.

HIST3102

3 Credits

Race in America

Race and race relations in American history.

HIST3103

3 Credits

Gender in U.S. History

The changing dynamics of gender in U.S. history. The impact of gender on American identity, public policy, foreign affairs and labor.

HIST3104

3 Credits

U.S. Diplomatic History

American diplomacy since 1890.

HIST3105

3 Credits

U.S. Environmental History

Nature, environment and environmentalism in American history.

HIST3106

3 Credits

Culture and Technology in American History

Technology and its effect on American culture.

HIST3107

3 Credits

U.S. Constitutional History

Constitutional issues and major Supreme Court rulings.

HIST3120

3 Credits

Colonial and Revolutionary America

The British colonies in America and the American Revolution.

HIST3121

3 Credits

The Age of Jefferson and Jackson

Development of national institutions, 1787 through the 1830s.

HIST3123

3 Credits

The U.S. Civil War and Reconstruction

Sectionalism, war and post-war reconstruction.

HIST3129

3 Credits

U.S. History 1890–1945

U.S. political, economic and social history, 1890–1945.

HIST3130

3 Credits

U.S. History Since 1945

U.S. political, economic and social history since 1945.

HIST3133

3 Credits

The Cold War

The post-World War II struggle between the United States and the Soviet Union until the latter's dissolution in 1991.

HIST3134

3 Credits

America in the 1950s

The political, economic and cultural history of the 1950s.

HIST3137

3 Credits

Vietnam Conflict

United States military involvement in Southeast Asia, 1954–1975.

HIST3189

3 Credits

Selected Studies in U.S. History

Topic varies with instructor.

HIST3198

1–3 Credits

Independent Study in U.S. History

Independent study under a faculty member's supervision; requires approval of the school director and the college dean.

HIST3201

3 Credits

Britain, Ireland and the Empire-Commonwealth

The development of Britain and the Empire-Commonwealth since 1688.

HIST3202

3 Credits

Middle East

The Middle East after World War I.

HIST3203

3 Credits

19th-century Europe

Political, social, economic and intellectual developments in Europe from the Congress of Berlin to World War I.

HIST3204

3 Credits

Europe in the 20th Century

European political, social and intellectual developments, 1914–1945.

HIST3205

3 Credits

History of Russia

Russian history in the 19th and 20th centuries, with emphasis on westernization, revolutionary movement, Marxism-Leninism and the rise and fall of the Soviet superpower.

HIST3206

3 Credits

Modern Revolutions

National revolutions since the 18th century.

HIST3289

3 Credits

Selected Studies in World History

Studies in an area not covered by an existing course.

HIST3298

3 Credits

Independent Study in World History

Independent study under a faculty member's supervision; requires approval of the school director and the college dean.

HIST3342

3 Credits

Religion and Nation Building

The historical background of Judaism, Christianity and Islam; their organization, structure, economic significance, political and social impact and influence on civilization.

HIST3360

3 Credits

Modern African History

A survey of the rise, fall and legacy of European imperialism in Africa, c. 1850–1960. Major topics include early European exploration and conquest, the development of colonial states, internal resistance and the rise of decolonization movements. Special attention will be paid to the impact of the Industrial Revolution, globalization and the Cold War on the African continent.

HIST4400

3 Credits

Senior Research Seminar

Offered in the spring semester as a requirement for graduating majors, the course is designed to reinforce research and writing skills.

HIST4401

3 Credits

Honors History

Independent study for students in the University Honors Program; requires approval of the school director and the college dean.

HIST4476

3 Credits

Honors History

Independent study in history for students in the University Honors Program under the direction of a specific faculty member with approval of the department chairperson.

Honors • Humanities

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

HIST4498

3 Credits

Internship

Practical experience working in a business, government or nonprofit setting or museum, applying academic knowledge. Academic component includes weekly journals and semester-evaluative paper and frequent interaction with department mentor.

Honors

University Honors Program

HON3301

3 Credits

Junior Honors Seminar

Introduction to the methods of research; literature searches using computer and web databases; proposal development; organization and presentation of research data; development of the honors thesis. HON3301 Junior Honors Seminar is a University-wide course. For other University Honors Program courses please contact the University Honors Program director on your campus.

HON4401

3 Credits

Senior Honors Thesis

Senior honors thesis for students in the University Honors Program under the direction of a specific faculty member with approval of the school director.

HON4402

3 Credits

Senior Honors Research

Senior honors research for students in the University Honors Program under the direction of a specific faculty member with approval of the school director.

Humanities

School of the Humanities

HUMN2241

3 Credits

Greek Civilization

This course will explore the history and culture of Greece during the 5th century BC. Topics will include Greek constitutional history (especially the development of Greek democracy), the Persian Wars, the rise of the Athenian empire and the Peloponnesian Wars. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2245

3 Credits

Roman Civilization

This course will explore the history and culture of Rome from the outbreak of the Punic Wars to

the Battle of Actium (264–31 BC). Topics will include the Punic Wars, the Roman conquest of the Mediterranean, the decline of the Republic, the Roman Civil Wars, the dictatorship of Julius Caesar and the emergence of Octavian/Augustus. Readings will include selections from Roman historians (Livy), Roman political figures (Cicero and Caesar) and Roman poets (Catullus, Horace and Virgil). Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2253

3 Credits

The Search for Meaning: Religious Responses

Examination of the religious thought of two Jewish and two Christian 20th-century figures. Through an analysis of the writings of Elie Wiesel, Abraham Heschel, Dorothy Day and Dietrich Bonhoeffer, the student will explore structures of religious experience in two monotheistic traditions. Special attention will be paid to the roles of religious ways of knowing in the formation of social and political philosophies. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2253 The Search for Meaning: Religious Responses.)

HUMN2254

3 Credits

War and Peace in Christianity, Judaism and Islam

Survey of key aspects of the thought and practice of the three monotheistic traditions with regard to issues surrounding war and peace. Both scriptural writings and the writings of contemporary religious thinkers will be analyzed. Selected interreligious conflicts in the contemporary period will be discussed. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2254 War and Peace in Christianity, Judaism and Islam.)

HUMN2255

3 Credits

Person, Gender and Sexuality: Judaism, Christianity and Islam

This course, an interfaith endeavor taught by professors from the Jewish, Christian and Muslim traditions, will trace the historical development of the meaning and value of person, gender and sexuality in these traditions. Emphasis will be placed on understanding the cultural, historical and theological basis of these terms, the convergences of the meanings of these terms in the three traditions and the contemporary applicability of these concepts from a global perspective. (Equivalent to RELI2255 Person, Gender and Sexuality: Judaism, Christianity and Islam.)

HUMN2439

3 Credits

Radical Political Thought

This course explores major currents of political radicalism both within and outside of the dominant Western political tradition. Topics considered include antidemocratic radicalism, democratic radicalism, Marxian radicalism, radical feminism, radical individualism and post-colonial radicalism. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2439 Radical Political Thought.)

HUMN2440

3 Credits

Human Rights

This course will examine several major themes and problems in contemporary human rights, including the meaning of human rights, its origins, philosophical justifications and its enabling documents. It also will discuss current philosophical debates arising from cultural relativism, religious claims and the assertion of group rights. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2440 Human Rights.)

HUMN2443

3 Credits

African-American Political Thought

This course explores the contributions of African-American political thinkers to the development of American political thought, considers the tensions and conflicts within African-American political thought and explores the significance of these thinkers to the understanding of contemporary race relations. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2443 African-American Political Thought.)

HUMN2444

3 Credits

Technology and Its Critics

Modern technologies have aroused both intense admiration and violent opposition. This course will provide a philosophical analysis of some of the issues raised by critics of modern technology such as Aldous Huxley, Lewis Mumford and Neil Postman. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2444 Technology and Its Critics.)

HUMN2445

3 Credits

Democracy in America

This course explores the theory and practice of American democracy from the 19th century to the present day through a mixture of philosophical, historical, literary and social scientific readings and a variety of documentary and Hollywood films. Questions include: What are the theoretical foundations of American democracy? How does the practice of democracy in

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America deviate from these foundations? How has American democracy evolved? Why do so many Americans appear to hate politics? How should democratic citizens be educated? Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2445 Democracy in America.)

HUMN2446

3 Credits

Religion and Human Rights

This course will survey contemporary issues in the relationship between religion and human rights. Among the topics examined will be the values in various religious traditions, in particular Hinduism, Judaism, Christianity and Islam, which may underlie the protection of human rights. The course will also look at the persecution of religious minorities in today's world, the role of religion in suppressing human rights and how religion has served, in various instances, to champion human rights. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2446 Religion and Human Rights.)

HUMN2447

3 Credits

Ecology for Life: Building a Lifestyle for a Sustainable Planet

This course will provide the student with a basis for making lifestyle choices that are consistent with the goal of building a society that sustains the resources of the Earth for future generations. The principles of environmental society and practical applications are covered. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2448

3 Credits

Comparative Religions

A study of the great religions of the world, with emphasis on how they affect events in the world today. The course explores components and meanings of Hinduism, Buddhism, Confucianism, Taoism, the theistic Western religions (Judaism, Christianity, Islam) and some less common religions. Subjects to be covered include religious ideas and institutions, cosmologies, systems of meaning and salvation. Extensive material on the web will be assigned. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2448 Comparative Religions.)

HUMN2450

3 Credits

History and Methods of Science

An interdisciplinary survey of the history of Western science from its roots in the ancient Greek natural philosophy up to the present time. Although the course will cover topics in the philosophy and history of all the sciences, emphasis will be placed on methodological developments. Prerequisite: ENWR1002 Com-

position II: Research and Argument. (Equivalent to PHIL2450 History and Methods of Science.)

HUMN2452

3 Credits

Ancient Political Thought

This course examines some of the foundational, political and social ideas of Western and Eastern civilizations in historical context and comparative perspective. Topics include the origins of democracy, the degeneration of the ancient polity and the rebirth of the ancient conception of politics during the Renaissance. Readings encompass history, philosophy and literature, including selections from Confucius, Thucydides, Plato, Aristotle, Aristophanes, Cicero, Livy and Machiavelli. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2452 Ancient Political Thought.)

HUMN2454

3 Credits

Music, Power and Freedom

An introduction to political philosophy through music, this course will explore the concepts of freedom and constraint, individualism and tradition, anarchy and order, equality and authenticity, relating them to current issues including censorship and parental-advisory labels, the MP3 file-sharing controversy and musical subversion, from Shostakovich to Iranian hip-hop. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2455

3 Credits

American Jazz and the Movement for Civil Rights

This course explores the many historical, cultural and political connections between jazz and the American civil rights movement. The course draws upon jazz musical selections as well as readings on jazz and the struggle for civil rights to see how music reflects the social and political context of music makers and listeners and vice versa. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2456

3 Credits

Dissent in Popular Culture: From Inception to Iraq

The United States was born and thrives in a culture of dissent that has become an inseparable part of the American experience. This course will explore the mutually beneficial relationship between the media and dissent in American culture, touching upon music, literature, television and film. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN2545

3 Credits

The American Mind

This course explores some of the main sources of American social and political thought from the 18th century to the present, with particular emphasis on the relationship between democratic and individualistic principles. It also will investigate other major themes and problems in American social and political thought, including federalism, individualism, democracy, citizenship, American nationalism, etc. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL2545 The American Mind.)

HUMN3001

3 Credits

The Nature of Nature

Nature and culture are opposites, or are they? Is the very concept of nature a cultural construct? Or isn't it? Is nature the same thing for the scientist, artist, poet, naturalist and philosopher? Do the world's religions understand nature in the same way? Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3041

3 Credits

Technology and Values

The course will include, but will not be limited to, a short history of industrial and post-industrial technology, technology as value neutral and value-laden, positive and negative ethical consequences of technology, ethical challenges created by technology (e.g., genetic engineering, cloning, artificial intelligence), ethics and responsibility in a high-tech age and humanism vs. science and technology. Ethical issues in a computerized society will also be examined, e.g. privacy, private property, power concerns related to the global information highway, quality of work, work possibilities in a computer age and computers and the self. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3042

3 Credits

The Bible and Its Influence

The Bible as a collection of many types of literature, read from a literary point of view. Novels, dramas and poems influenced by the Bible. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to ENGL3377 The Bible and Its Influence.)

HUMN3220

3 Credits

Political and Social History of Music

An introduction to music appreciation and history that emphasizes the political, cultural and social influences on music from antiquity to the 20th century. Contents include sacred and secular, vocal and instrumental and folk and art

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music from across the Western world, including modern popular song. No previous musical experience necessary. All course materials, including textbooks, are included. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3221

3 Credits

Coming of Age in America

This course is a sociocultural examination of the teenager as expressed in American film. The course follows the development of the concept of teenagers in American society over the past five decades in order to gain an understanding of the role of the teenager in influencing and directing social change. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3307

3 Credits

Slavery and Global Ethics

This course will analyze 17th- and 18th-century fictional and nonfictional representations of race and enslavement in tandem with the rise of Enlightenment political and ethical philosophy. Students will read texts by authors from North and South America, Europe and West Africa, each predicting economic and ethical consequences of the rise of the global economy. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL3307 Slavery and Global Ethics.)

HUMN3315

3 Credits

Jerusalem in Jerusalem

The course will explore the centrality of the city of Jerusalem in the life of Judaism, Christianity and Islam. The course will provide the student with the complex history of the city in the life of the monotheistic traditions through the scholarship of Karen Armstrong and through discussions led by the interfaith team of instructors. The capstone of the course will be a two-week visit to the city of Jerusalem, which will include hands-on visits to the holy sites of the three traditions, lectures by Jerusalem-based experts and journal selections of the students. The course will challenge the participants to allow knowledge and experience to inform and shape the students' visions of both their own lives and the life of the world. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3316

3 Credits

Babylon the Great: Culture, Religion and Conflict in Iraq

This course is an introduction to the cultural and religious history of Iraq beginning in the fourth millennium BCE and continuing through the present day. Topics will include the invention of writing, the origin of cities, Mesopotamian law and religion, the Epic of Gilgamesh,

the rise of Islam, cultural continuities in the Middle East and the legacy of the ancient Near East in western civilization. Students will engage in a variety of methodological approaches in the humanities as they learn of the rich cultural and religious heritage of Iraq and consider important questions about its future. *FDU NetID (formerly Webmail) account required.* Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to RELI3316 Babylon the Great: Culture, Religion and Conflict in Iraq.)

HUMN3317

3 Credits

Ancient Egypt: Mummies/Myth/Magic

This course provides an introduction to the religion, history, society and culture of ancient Egypt, which was one of the most sophisticated and long-lived civilizations in world history. Special attention will be given to funerary literature and religion, cults, magic and ritual, religious art and architecture, the sacred writing system and the religion of daily life. (Equivalent to RELI3317 Ancient Egypt: Mummies/Myth/Magic.)

HUMN3318

3 Credits

Jerusalem: The Holy City

A study of Jerusalem, the sacred city for three different world religions, is fundamental to a rich understanding of the history and religions of the Middle East. Beginning in antiquity and continuing through the medieval and modern periods, this course will chronicle the rise, fall and reconstruction of Jerusalem many times over. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3319

3 Credits

The Holocaust: Philosophical Issues

An introduction to the Holocaust through the use of philosophical and religious essays, historical accounts, memoirs, novels, short stories and plays. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL3319 The Holocaust: Philosophical Issues.)

HUMN3321

3 Credits

The Book of Job and Its Interpreters

This course will examine the Biblical book of Job as a work of literature and religious thought and will develop the analysis historically in comparison with ancient near Eastern, classical, medieval and modern philosophical discussions and theological commentaries of the Joban tradition. In this class, students will wrestle with such themes as theodicy, piety, evil, suffering and the nature of the divine-human experience. Prerequisite: ENWR1002 Composition II:

Research and Argument. (Equivalent to RELI3321 The Book of Job and Its Interpreters.)

HUMN3322

3 Credits

Latin-American Women Authors

A study in English translation of Latin-American women authors from Sor Juana Ines De La Cruz to the present day. Emphasis will be placed on more recent writers. (Equivalent to LANG3322 Latin-American Women Authors.)

HUMN3334

3 Credits

Religion and Politics

This course explores the controversial and sometimes bloody crossroads between politics and religion. Specific topics may include religion as a political construct and instrument of power in society, the role of biblical traditions in the development of church-state relations in the United States, prophetic rhetoric and liberation theologies as public modes of discourse for social justice, morality, ethics and the just-war debate and the development of a suitable political theology for contemporary society. Prerequisite: ENWR1002 Composition II: Research and Argument. Equivalent to RELI3334 Religion and Politics.

HUMN3350

3 Credits

Social Life On and Off the Internet

This web-enhanced course addresses social change at the interpersonal level and within frameworks that include family, friendship, partner formation, religion, work and health. It examines the degree of overlay between e-communications and face-to-face and telephone contact and traditional letter writing. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN3396

3 Credits

South-African Literature

This course will explore the depictions of select countries or regions of the African continent in a variety of texts written by Africans and by newcomers or outsiders to Africa. It aims to provide a sense of the diversity and multiplicity of "Africas" as created by writers from different points of view, with different relationships to Africa at different times. Students will read from among diaries, memoirs, travel narratives, histories, works of journalism, popular magazines and may also sample music and film.

HUMN3399

3 Credits

Continental Drift: Sex, Gender and Family in the South Asian Diaspora

A political and cultural study of literary and autobiographical works created by two generations of South Asians (including Salman

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Rushdie and Jhumpa Lahiri) who have chosen to make their lives and careers beyond the sub-continent. The course centers on urban, cosmopolitan and transnational stories, novels and films in English, and touches upon topics such as gender roles, courtship, marriage, reproduction and child-rearing. *FDU NetID* (formerly *Webmail*) account required. (Equivalent to ENGL3599 Continental Drift: Sex, Gender and Family in the South Asian Diaspora.)

HUMN4510

3 Credits

Modern Political Thought

This course introduces students to recurring themes and major problems of modern political and social thought. These include the nature and significance of politics, the meaning of freedom, the value of citizenship, the nature of legitimate authority, the connection between religion and politics, the nature of individual rights, the distinction between nationalism and patriotism and the connection between economic and political life. Particular emphasis will be given to the retrieval of classical political ideas by modern thinkers and the development of distinctly modern political ideas. The course is organized more or less chronologically so these themes can be examined historically as well as theoretically. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL4510 Modern Political Thought.)

HUMN4408

3 Credits

The British Mind

An interdisciplinary introduction to 19th-century British political thought, literature and scientific achievement held at FDU's Wroxton College in England. Taught in collaboration with prestigious guest lecturers and Wroxton College faculty, the course will examine central figures of 19th-century British intellectual and literary life such as Charles Darwin, John Stuart Mill, Herbert Spencer, William Wordsworth, Charles Dickens and Rudyard Kipling. The course also will feature visits to art, scientific and natural history museums; ecological walks in rural England; and excursions to cultural and intellectual centers such as Oxford, Stratford-upon-Avon and London. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN4409

3 Credits

The British Imagination: From King Arthur to Harry Potter

British writers have created a variety of imaginary worlds that not only entertain but also foster criticism, analysis and understanding of the real world. This interdisciplinary course examines the continued relevance of the mythic, utopian and dystopian literatures of Great Britain. Held at FDU's Wroxton College in England and taught in collaboration with prestigious guest lecturers and the faculty of

Wroxton College, the course also will feature field visits to art and history museums, nature walks in rural England and excursions to cultural and intellectual centers such as Oxford, Stratford-upon-Avon and London. Among the imaginary worlds that will be discussed are those depicted in Arthurian legends, Swift's *Gulliver Travels*, the science fiction of H.G. Wells, Tolkien's Middle-Earth and J.K. Rowling's Harry Potter series. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN4451

1–3 Credits

Selected Studies in Humanities

Studies in an area of humanities. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN4452

3 Credits

Gandhi: His Life, Philosophy and Legacy

An examination of Gandhi's life and work as the leader of India's freedom movement. A critical evaluation of his philosophy and techniques of nonviolent protest, as well as his impact on leaders such as Martin Luther King, Jr., Nelson Mandela and others. The relevance of Gandhi's ideas in the contemporary world will be discussed. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL4452 Gandhi: His Life, Philosophy and Legacy.)

HUMN4458

3 Credits

Ethics and Public Affairs

Does morality matter for politics? Or is power the only thing that really counts? This course explores the nature and validity of arguments for contemporary public policy issues such as abortion, capital punishment, racial profiling and the rules of war. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL4458 Ethics and Public Affairs.)

HUMN4459

3 Credits

Questioning Religion

A discussion class with readings from atheists, skeptics, saints, scoffers, believers, doubters, scientists and theologians to explore problems of reason, faith and questioning in the major religious traditions — and in one's own life. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL4459 Questioning Religion and RELI4459 Questioning Religion.)

HUMN4468

3 Credits

Bollywood and Beyond: India in Film

As India responded to major cultural and technological shifts during the 20th century,

Bollywood was crucial to the creation and reinforcement of the nation's changing images of itself and its people. This study of Indian film reflects these changes and looks at the ways that cultural identities are shaped with reference to popular art, technology, history and contemporary politics. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to COMM4468 Bollywood and Beyond: India in Film.)

HUMN4470

3 Credits

The Nature of Evil

Examination of the treatment of evil in works by major writers. Authors will include Dante, Shakespeare, Hawthorne, Emily Bronte, Dostoevsky, Melville, Graham Greene, Flannery O'Connor and Cormac McCarthy. Prerequisite: ENWR1002 Composition II: Research and Argument.

HUMN4498

3 Credits

Internship

Practical experience working in a business, government or nonprofit setting or museum, applying academic knowledge. Academic component includes weekly journals and semester-evaluative paper and frequent interaction with department mentor.

Information Technology

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

INFO1101

3 Credits

Lecture/Laboratory 4 hours

Computer Concepts and Technology

This course introduces the concepts of computer hardware organization and operating systems. A survey of various operating systems including Windows, Mac-OS, Unix, Sun-OS and Linux is conducted. Students learn about the current developments in computers. Topics covered include Boolean algebra, digital system design, buses and addressing, memory systems, micro-processors, computer peripherals, interfacing techniques and performance evaluation.

INFO1105

3 Credits

Lecture/Laboratory 4 hours

Software Applications in Business and Technology

This course introduces the students to the software used in business and technology, which includes word processing, spreadsheets, databases, graphic presentations and computing-

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software packages. Students learn how to use the word processor to create business reports, brochures, newsletters and other applications. They prepare and conduct oral presentations with the aid of presentation software. Spreadsheet, visualization and computing software are used to analyze and evaluate data. Students create databases, queries, forms and reports using the database-development software.

INFO1201

3 Credits

Information Technology

This course introduces the students to the career opportunities, current and emerging technologies and the scientific and engineering principles behind information technology. Students study the impact of information technology in the global society. Areas of current interest covered include telecommunications, computer networks, the internet and World Wide Web, multimedia, e-commerce applications, desktop publishing, computer-based systems and instruction technology.

INFO2101

3 Credits

Lecture/Laboratory 5 hours Computer Programming for Information Technologists I

Elements of algorithm design and problem solving. Elementary data types and arrays. Basic control structures: sequential, conditional, iterative. Assignment statements. Basic input/output. Elements of methods. Design, coding and implementation of programs in various areas using a language such as Java. Prerequisites: CSCI1105 Survey of Computers and Computer Software and INFO1101 Computer Concepts and Technology. (Equivalent to CSCI1201 Computer Programming I.)

INFO2102

3 Credits

Lecture/Laboratory 5 hours Computer Programming for Information Technologists II

Stepwise refinement as a programming tool. Objects and classes. Inheritance polymorphism. Character string manipulation. Advance input/output. Elements of debugging and testing. Design, coding and implementation of programs in various areas using a language such as Java. Prerequisite: grade of C or better in either CSCI1201 Computer Programming I or INFO2101 Computer Programming for Information Technologists I. (Equivalent to CSCI1202 Computer Programming II.)

INFO2105

3 Credits

Lecture/Laboratory 4 hours Internet and Web Applications

This course provides an introduction to internet services, the World Wide Web, accessibility, search-engine optimization (SEO), multimedia

and social networking. Students learn how to create and publish web pages using eXtensible HyperText Markup Language (XHTML) and Cascading Style Sheets (CSS) and construct and maintain a website.

INFO2106

3 Credits

Lecture/Laboratory 4 hours Website Design and Management

This course introduces students to the principles of website design and management, business applications and security and e-commerce. Students study graphic web-design concepts such as usability, accessibility and scalability. They learn how to create interactive web applications, enhance web pages with dynamic images, implement a web server and integrate the website with a database management system. Prerequisite: INFO2105 Internet and Web Applications.

Fee

INFO3201

3 Credits

Lecture/Laboratory 4 hours Human Computer Interface

This course introduces the students to the current theories and issues in human-computer interactions. Students learn the techniques and technologies needed for the analysis, design and implementation of human-computer interfaces. They also study usability testing and rapid prototyping. Prerequisite: INFO2101 Computer Programming for Information Technologists I.

INFO3205

3 Credits

Lecture/Laboratory 4 hours Digital Media Publishing

This course provides an overview of the design principles of desktop and multimedia publications. Students study the proper rules and procedures for creating publications. They learn how to create interactive multimedia content for both CD-ROM and the World Wide Web using authoring software packages. Topics covered include audio, image and video processing and compression. Prerequisite: INFO2105 Internet and Web Applications.

INFO3308

3 Credits

Emerging Communications Technologies

This course surveys the historical, current and emerging communications technologies. Students learn how the emerging communications technologies operate and how they fit in a computer/communications network. The intended applications of these technologies and their advantages and disadvantages are studied. The course considers both wire-based and wireless communications.

INFO4101

3 Credits

Lecture/Laboratory 4 hours Data Communications and Computer Networks I

This course provides a comprehensive overview of data communications and computer networks, with emphasis on network simulation and network protocols. The topics to be covered include network components and model, network services and applications, network transport architectures, routing and switching, local area networks, mobile networks and network security and management. Integrated laboratory experience. Prerequisite: INFO1101 Computer Concepts and Technology.

Fee

INFO4102

3 Credits

Lecture/Laboratory 4 hours Data Communications and Computer Networks II

This course builds upon the networking concepts introduced in INFO4101 Data Communications and Computer Networks I. Topics covered include system administration, communications software, network technologies, LAN models, Ethernet, switches, routers, bridges and hardware components used in a converged network. Students learn how to establish and maintain a local area network and extend their learning to network convergence including media transmission, quality of services and network performance. Integrated laboratory experience. Prerequisite: INFO4101 Data Communications and Computer Networks I.

Fee

INFO4201

3 Credits

Information Technology Needs Assessment and Management

This course introduces students to the fundamental concepts of needs assessment and management as applied to information technology. Students study how to integrate, maintain and manage information technology in modern organizations. They learn how to systematically assess customer needs and problems and provide them with cost-efficient and effective solutions. Prerequisite: senior standing.

INFO4205

3 Credits

Information Technology Capstone Project

Senior students are required to successfully complete an information technology project by utilizing their past course work and design experience, by following professional practice and by exercising sound judgment. The capstone project must be approved and supervised by a faculty member. Students must be within 16 credits of graduation to take this course.

Italian • Language and Culture Studies

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INFO4278

3 Credits

Operating Systems

This course presents an introduction to the fundamental principles of operating systems in terms of resource management and machine virtualization. Topics include system services, process management, process synchronization, threads, CPU scheduling, memory, device and file management and security. Integrated laboratory experience. Prerequisites: ENGR2286 Digital System Design and INFO2101 Computer Programming for Information Technologists I. (Equivalent to CSCI3278 Operating Systems.)

INFO4410

3 Credits

Foundations of Cybersecurity

The topic of Information Assurance and Security (IAS) has become increasingly important as computer systems are being subjected to continuous and more sophisticated attacks. This course presents an introduction to the application and management of mechanisms for cybersecurity and information assurance in computing, communication and organizational systems. Topics covered include malware and social engineering, vulnerability assessments, network security, authentication, basic cryptography and risk analysis. Prerequisite: CSCI3240 Computer Networks, EENG4342 Data Communications and Computer Networks or INFO4101 Data Communications and Computer Networks I. (Equivalent to CSCI3410 Foundations of Cybersecurity.)

INFO4498, INFO4499

6 Credits (3 Credits Each Semester)

Co-op in Information Technology

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills. Prerequisite: permission of director of co-op.

INFO4844

3 Credits

Programming for the Internet

This course introduces students to the fundamentals of Microsoft.NET framework, the ASP.NET web-development environment and C# programming. It also covers XML web services, SQL Server database and Microsoft web server IIS (Internet Information Services). Students study how to develop powerful websites and web applications that access databases using dynamic, server-side programming in C#. They also learn how to deploy such applications over various servers. Prerequisites: CSCI3268 Database Systems and INFO2106 Website Design and Management. (Equivalent to CSCI3444 Programming for the Internet.)

INFO4875

3 Credits

Honors in Information Technology

Independent study in information technology for students in the University Honors Program under the direction of a specific faculty member with the approval of the school director. This course can be taken in lieu of INFO4205 Information Technology Capstone Project. Prerequisite: admission to the University Honors Program.

INFO4891

3 Credits

Network and Information Security

Coverage of potential threats to a stand-alone or networked computer. The course includes strategies to harden the system against these threats and discusses the liability of the network administrator for crimes committed via the network. Business issues considered include social engineering, continuity, data backup and recovery and risk analysis. Prerequisite: CSCI3240 Computer Networks, EENG4342 Data Communications and Computer Networks or INFO4101 Data Communications and Computer Networks I. (Equivalent to CSCI3391 Network and Information Security.)

Italian

School of the Humanities

ITAL1101

3 Credits

Elementary Italian I

An introduction to contemporary spoken and written Italian.

ITAL1102

3 Credits

Elementary Italian II

A continuation of ITAL1101 Elementary Italian I. Prerequisite: ITAL1101 Elementary Italian I or equivalent.

ITAL2103

3 Credits

Intermediate Italian I

A continuation of the study of contemporary spoken and written Italian. Prerequisite: ITAL1102 Elementary Italian II or equivalent.

ITAL2104

3 Credits

Intermediate Italian II

Continuation of ITAL2103 Intermediate Italian I. Prerequisite: ITAL2103 Intermediate Italian I or equivalent.

ITAL4430

1–3 Credits

Selected Studies in Italian

Studies in an area of Italian language and/or literature.

Language and Culture Studies

School of the Humanities

LANG2201

3 Credits

Cultural Awareness and Languages

This course will focus on the role of language in culture, the interaction of languages globally and at home and the development of a repertoire of adaptive behaviors in order to be able to experience success in communication with others in the workplace and in the community.

LANG3301

3 Credits

The World of Language

Introduction to the concept of language and exploration of the great variety of languages surrounding us, its interrelationship and its political, sociological and cultural impact.

LANG3303

3 Credits

Myths and Folk Tales of Continental Europe

Knowledge and beliefs embodied in the myths and folk tales of various Western cultures.

LANG3304

3 Credits

Nobel Prize Winners as Representatives of Their Cultures

The works of Gide, Camus, Garcia Marquez, Mistral, Mann and Boll, seen against the background of their particular cultures.

LANG3306

3 Credits

Literature and Culture in Fin-de-Siècle Europe

Cultural crises as reflected in the artistic and literary movements in continental Europe.

LANG3307

3 Credits

The Age of Romanticism in Continental Europe

Romantic style as manifested in different European cultures with particular emphasis on the literature of France, Spain and Germany.

LANG3308

3 Credits

Images of Women in European Literature

The myth of femininity chosen from such writers as Goethe, Flaubert, Gide, Garcia Lorca, Brecht, de Beauvoir, Colette, George Sand and Christa Wolf.
Spring

Marine Biology

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LANG3311

3 Credits

20th-century French, German and Spanish Theater

The theater of Brecht, Artaud, Genet and Garcia Lorca, among others.

LANG3312

3 Credits

Latin-American Novel

Readings from the works of Carlos Fuentes, Manuel Puig, Ariel Dorfman, Alejo Carpentier, Jose Donoso and Mario Vargas Llosa.
Spring

LANG3319

3 Credits

Short Story: Reflection of Language and Culture

A study of French, German, Italian, Russian and Ukrainian short stories.

LANG3321

3 Credits

Linguistics: Origin of Languages

This course includes, among other issues, the fundamental concepts and origins of language. It will emphasize comparisons, modern influences and idioms in modern languages.

LANG3322

3 Credits

Latin-American Women Authors

A study in English translation of Latin-American women authors from Sor Juana Ines De La Cruz to the present day. Emphasis will be placed on more recent writers. (Equivalent to HUMN3322 Latin-American Women Authors.)

LANG3324

3 Credits

The Latin-American Short Story

Close readings of short stories from a variety of time periods and nationalities, mainly from Latin America. Focus will be on the uses of language and techniques to reflect on culture, communities and historical contexts. Prerequisite: ENWR1002 Composition II: Research and Argument.

LANG3333

3 Credits

Chinese Language Through Literature

This course is designed to familiarize students with major Chinese literary forms, works and authors in the context of cultural and social history through language. Does not require knowledge of Chinese literature or language.

LANG3335

3 Credits

Contemporary Arabic Thought and Cultures

This course will provide opportunities for students to become familiar with Arab history and culture and open up avenues for exploring the Arab world.

LANG3336

3 Credits

Russian Culture/Modern Era

This class covers Russian culture — including food, dance, music, history, architecture, literature and customs — from the period of the czars to contemporary times. This course offers the overview and study of the Russian modern culture and civilization. The focus of this course will be to provide the students with the tools and methodology of studying culture in historical, geographic, social and political contexts as it relates to changes and traditions associated with the Russian-speaking world.

LANG3340

3 Credits

French Language and Culture: Global Perspective

A study of the influence of the French language and culture in Francophone countries; representations of major Francophone writers from the Caribbean islands to the African continent.

LANG3344

3 Credits

The World Wars and European Languages

A study of the great literature that emerged from the horror and heroism of World Wars I and II. Students will analyze the content of various literary works.

LANG4450

3 Credits

Literary Classics in Translation

Readings from the works of Milosz, Chekhov, Turgenev, Mauriac, Dumas fils, Boccaccio, Goethe and Hoffman.

Marine Biology

School of Natural Sciences

MBIO1118

3 Credits

Lecture 2 hours Beach Ecology

Visits to various coastal marine environments studied in MBIO1128 Laboratory: Beach Ecology. Identification and experiments on marine organisms to gain an understanding of their way of life. Corequisite: MBIO1128 Laboratory: Beach Ecology.

MBIO1128

0 Credits

Laboratory 4 hours

Laboratory: Beach Ecology

Fieldwork and experiments illustrating the topics discussed in MBIO1118 Beach Ecology. Corequisite: MBIO1118 Beach Ecology.

Fee

MBIO1209

4 Credits

Lecture 2 hours

Introduction to Marine Biology

Basic study of the marine environment, with emphasis on the ecological aspects of the ocean. Types and characteristics of marine organisms and their interactions with one another as well as with the physical, chemical and geological sectors of the ocean. Corequisite: MBIO1219 Laboratory: Introduction to Marine Biology.

MBIO1219

0 Credits

Laboratory 4 hours

Laboratory: Introduction to Marine Biology

Experiments illustrating the topics discussed in MBIO1209 Introduction to Marine Biology. Corequisite: MBIO1209 Introduction to Marine Biology.

Fee

MBIO3200

4 Credits

Lecture 2 hours; Laboratory 2 hours

Tropical Marine Vegetation

An introduction to the realm of marine vegetation. The main objectives of this course are (1) to teach the student field and laboratory techniques for research on the biology, taxonomy and ecology of marine vegetation; (2) to review the taxonomy and distribution of marine plants, macro-algae, seagrasses, marsh plants and mangroves; and (3) to acquire applied knowledge of the ecology and physiology of marine plants by running field experiments. Prerequisites: BIOL1251, BIOL1253 General Biology I and BIOL1252, BIOL1254 General Biology II or a semester of botany.

Fee

MBIO3400

4 Credits

Lecture 2 hours; Laboratory 2 hours

Tropical Marine Invertebrates

A study of the evolution, reproduction, development, behavior, anatomy, physiology and ecology of marine invertebrate taxa. The laboratory will include dissections, collections, identifications and experimentation on tropical marine invertebrates. Prerequisites: MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology.

Fee

Mathematics

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MBIO3650**4 Credits****Lecture 3 hours****Physiology of Marine Animals**

Osmoregulatory, respiratory and sensory physiology of selected marine invertebrates and vertebrates. Prerequisites: BIOL1251, BIOL1253; BIOL1252, BIOL1254 General Biology I, II and MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology. Corequisite: MBIO3651 Laboratory: Physiology of Marine Animals.

*Fall, Spring***MBIO3651****0 Credits****Laboratory 4 hours****Laboratory: Physiology of Marine Animals**

Experiments illustrating the topics in MBIO3650 Physiology of Marine Animals. Measurement of water content, oxygen uptake and phototaxis of selected marine invertebrates. Prerequisites: BIOL1251 General Biology I, BIOL1252 General Biology II, BIOL1253 Laboratory: General Biology I, BIOL1254 Laboratory: General Biology II, MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology. Corequisite: BIOL3650 Physiology of Marine Animals.

*Fee***MBIO3700****3 Credits****Lecture 2 hours; Laboratory 2 hours****Tropical Marine Ecology**

The course discusses the interrelationship of marine organisms within their environments. The course covers measurement of the biogeochemical parameters which define marine ecosystems such as substrate, light, salinity, oxygen and nutrients. Emphasis will be given to understanding the properties of seawater as a medium for life, spatial and temporal variation in physical factors, nutrient links, inverted pyramids of standing biomass, tropical marine food webs, intertidal zonation, abundance and products. Prerequisites: MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology.

*Fee***MBIO3900****4 Credits****Lecture 2 hours; Laboratory 2 hours****Tropical Marine Vertebrates**

A study of the evolution, reproduction, development, behavior, anatomy, physiology and ecology of marine vertebrate taxa. The laboratory will include dissections, collections, identifications and experimentation on tropical marine vertebrates. Prerequisites: MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology.

*Fee***MBIO4201****3 Credits****Marine Biology Research I**

Students will select, design and execute and collect data for a research project in marine biology.

*Fall**Fee***MBIO4202****1 Credit****Marine Biology Research II**

Students will analyze data and write a scientific research paper in marine biology from data collected in MBIO4201 Marine Biology Research I. Prerequisite: MBIO4201 Marine Biology Research I.

*Spring**Fee*

Mathematics

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

MATH0198**4 Credits*****Computation and Algebra Skills**

Precollege mathematics: basic numerical concepts, fractions, operations with signed numbers, introductory algebra, graphs, operations on polynomials, simple and simultaneous linear equations. MATH0198 Computation and Algebra Skills is designed for students with deficiencies in both computational mathematics and elementary algebra. Placement in MATH0198 Computation and Algebra Skills is made by the Academic Resource Center and Academic Advising based on performance on a screening test. No credit toward graduation requirements. Prerequisite credit only.

*Fall, Spring***MATH0298****3 Credits*****Algebra Skills**

Precollege mathematics: basic arithmetical concepts, graphs and charts, introductory algebra. No credit toward graduation requirements. Prerequisite credit only.

*Fall, Spring***MATH1101****3 Credits****Comprehensive Mathematics**

Selected topics from logic, set theory, combinatorics, probability, matrices, systems of linear equations, linear programming, graphs.

*Fall, Spring***MATH1105****4 Credits****College Algebra**

Signed numbers, algebraic expressions, factoring, fractions, first-degree equations, radicals, graphical methods, quadratic equations, quadratic systems, binomial theorem. Prerequisites: elementary algebra and geometry.

MATH1107**4 Credits****Precalculus**

Algebraic operations, functions and graphs, trigonometric functions, graphs of trigonometric functions, factoring, exponents, radicals, logarithms, trigonometric relations, oblique triangles, sets of equations, quadratic equations, equations of higher degree. Prerequisite: intermediate algebra.

*Fall, Spring***MATH1109****4 Credits****Geometry Fundamentals**

This course is designed for current and prospective middle-school and elementary-school teachers. Possible topics include: basic geometry theorems and constructions; polygons and polyhedra; the Pythagorean Theorem; symmetry, similarity and scaling; dynamic geometry using computer software and the internet; properties of two- and three-dimensional spaces; coordinate geometry and measurement; analytical and transformational geometry; and history of geometry. Prerequisite: teacher certification, MATH1101 Comprehensive Mathematics or higher-number mathematics course.

MATH1201**4 Credits****Calculus I**

Slope, equations of lines, slope of a curve, rate of change of a function, derivatives of algebraic and trigonometric functions, maxima and minima, the Mean Value Theorem, indeterminate forms, the Fundamental Theorem of Calculus, basic techniques of integration. Prerequisites: intermediate algebra and trigonometry or a grade of C- or better in MATH1107 Precalculus.

*Fall, Spring***MATH2202****4 Credits****Calculus II**

Indefinite and definite integral, methods of integration. Infinite series. Taylor Series. Polar coordinates, parametric equations. Prerequisite: a grade of C- or better in MATH1201 Calculus I.

*Fall, Spring***MATH2205****3 Credits****Calculus III**

Lines and planes in 3-space. Vectors, functions

*Prerequisite credits are credits that do not count toward graduation nor are averaged into the cumulative grade point ratio (CGPR).

Mathematics

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of several variables, partial derivatives, multiple integrals, line integrals. Prerequisite: a grade of C- or better in MATH2202 Calculus II.

MATH2210

3 Credits

Differential Equations

First-order linear differential equations, linear differential equations with constant coefficients, variation of parameters, undetermined coefficients, Laplace transforms, solutions in terms of power series, numerical solutions with predictor-corrector and Runge-Kutta methods. Prerequisite: MATH2202 Calculus II.

MATH2243

3 Credits

Statistical Programming

This is an in-lab SAS programming course, including importing and exporting files, predictive data modeling and exploration (mixed-models analyses, multivariate statistical analysis, longitudinal analysis and survival analysis) and a programming approach to report writing. Prerequisites: MATH1105 College Algebra and elementary knowledge of a programming language.

MATH2255

3 Credits

Discrete Structures

Logic, sets, functions, algorithms. Integers, induction and recursion. Relations, posits, equivalence relations, digraphs and matrix representations. Boolean algebra, applications to logic, Boolean identities, Boolean functions, minimization of circuits. Graphs. Trees. Prerequisite: MATH2202 Calculus II or permission of instructor.

MATH2337

3 Credits

Applied Statistics I

An introductory course that covers basic probability, descriptive statistics and inferential statistics as applied to biology and health care. Topics emphasize problems in design, randomization, analysis and interpretation of real experiments and surveys. Analyses focus on tests of hypotheses (using normal and binomial methods) and correlation and regression analysis.

MATH2338

3 Credits

Applied Statistics II

This follow-up course to MATH2337 Applied Statistics I covers a wider range of applied statistical techniques, analysis of variance (ANOVA), factor and cluster analysis, multiple linear regression, cross-tab and distribution-free analysis. The course would touch upon more advanced topics such as modeling, experimental design, error correction, rare events and graphical methods. Prerequisite: MATH2337 Applied Statistics I.

MATH3220

3 Credits

Linear Algebra

Vector spaces and linear transformations; systems of linear equations, bases, matrix representations of linear transformations, matrix algebra, eigenvalues and eigenvectors, determinants, canonical forms, inner product spaces. Prerequisite: MATH2202 Calculus II.
Fall, Spring

MATH3225

3 Credits

Abstract Algebra

Groups, cyclic groups, subgroups, product and quotient groups, homomorphisms and isomorphisms. Rings, integral domains and fields. Prerequisite: MATH2202 Calculus II.

MATH3230

3 Credits

Analysis

Completeness of real numbers, convergence of sequences and series, topology of the real number line, limits and continuity of functions, differentiation, integration, proofs of the major theorems of elementary calculus. Prerequisite: MATH2202 Calculus II.

MATH3237

3 Credits

Probability and Statistics I

Sample spaces, discrete and continuous random variables. Point and Interval Estimation. Tests of Statistical Hypotheses. Prerequisite: MATH2202 Calculus II.

MATH3238

3 Credits

Probability and Statistics II

A continuation of MATH3237 Probability and Statistics I including Goodness of Fit Tests, Linear Models, Markov Chains, optional topics. Prerequisite: MATH3237 Probability and Statistics I.

MATH3240

3 Credits

Introduction to Numerical Methods and Analysis

MATLAB-based introduction to numerical methods. Introduction to MATLAB, analysis of numerical error and algorithmic convergence rates, root-finding methods, curve fitting and interpolation, least squares and model optimization, numerical differentiation and integration, numerical solution of ordinary differential equations. Prerequisite: MATH2210 Differential Equations.

MATH3275

3 Credits

Mathematics of Operations Research

An introduction to mathematical programming through the Simplex Method for linear program-

ming and the transportation algorithm. Additional topics to be selected from nonlinear programming, queuing theory and Markov processes. Prerequisite: knowledge of matrices and probability.

MATH3316

3 Credits

Partial Differential Equations

Fourier series, derivations and solutions of the partial differential equations satisfying auxiliary conditions as applied to equations of classical mathematical physics in one and several dimensions, orthogonal functions and eigenfunctions. Prerequisite: MATH2210 Differential Equations.

MATH3331

3 Credits

Higher Geometry

Axiomatics, groups of transformations and invariants. Erlanger Program, Euclidean and Lobachevskian geometry, special topics.

MATH3335

3 Credits

Complex Variables

Analytic functions. Cauchy's integral theorem and consequences, calculus of residues, entire and meromorphic functions, conformal mapping. Prerequisite: MATH3230 Analysis.

MATH3341

3 Credits

Advanced Engineering Mathematics

Vector algebra, vector calculus, gradient, divergence, curl. Line and surface integrals, Green's theorem, Stokes' theorem, divergence theorem. Vector spaces, dot products, matrices, linear equations, determinants, eigenvalues, diagonalization, complex analysis, complex integration, power series, residue theorem. Prerequisite: MATH2203 Calculus III.

MATH3350

3 Credits

Applied Mathematics

Operators, function spaces, applications to ordinary and partial differential equations. An introduction to the theory of distributions and operational calculus. Prerequisite: MATH3220 Linear Algebra.

MATH4430

1–3 Credits Each Semester

Selected Studies in Mathematics

Advanced studies in special fields of mathematics.

MATH4475, MATH4476

Variable Credits

Honors Mathematics

Independent study in mathematics for students in the University Honors Program under the direction of a specific faculty member with

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approval of the school director. Prerequisite: admission to the University Honors Program.

MATH4498

3 Credits

Co-op Mathematics

Integration of classroom study with specific planned periods of supervised learning in paid and relevant employment experiences. Co-op education combines learning on the job, University course work and career development skills.

Students are encouraged to complete two complementary co-op courses.

MATH4800

1–3 Credits Each Semester

Independent Study in Mathematics

Independent study under the direction of a specific faculty member after consultation with the school director.

Mechanical Engineering

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

MENG2232

3 Credits

Lecture/Laboratory 4 hours

Mechanical Measurement and Devices

Study of measurement of distance, work, energy, force, pressure and thermal quantities. Use of testing machines and industrial mechanical components. Corequisite: MATH1105 College Algebra or equivalent.

Fall

Fee

MENG2235

3 Credits

Lecture/Laboratory 4 hours

Manufacturing Processes

Study of methods in manufacturing. Theory and practice of turning, machining, drilling, etc., of metals and other materials.

Spring

Fee

MENG3150

3 Credits

Thermal Systems Analysis and Design

Analysis, design, modeling, simulation and optimization of thermal systems as applied to heat exchange, power generation, air conditioning and refrigeration. Economic analysis. Thermo-economic analysis and evaluation.

Prerequisite: ENGR3351 Applied Thermodynamics.

Fall

MENG3155

3 Credits

Heat Transfer

Three modes of heat transfer: conduction, convection and radiation. Steady and transient heat conduction. Forced and free convection. Radiation heat transfer. Heat-exchanger principles. Prerequisites: ENGR3351 Applied Thermodynamics, ENGR4254 Fluid Mechanics and MATH2210 Differential Equations.

MENG3230

3 Credits

Lecture/Laboratory 4 hours

Computer-aided Design and Manufacturing

Concepts and methods of computer-aided design and manufacturing (CAD/CAM). Design, modeling and simulation. Solid modeling software. Introduction to finite element analysis. Part, assembly and mechanism design. 3-D solids, surfaces and models. 2- and 3-D drawings. Generating computer numerical control (CNC) sequences for CAM. Application to engineering projects. Prerequisites: ENGR1223 Introduction to CAD, ENGR2228 Strength of Materials, MATH3220 Linear Algebra or permission of instructor and MENG2235 Manufacturing Processes.

Spring

MENG3288

3 Credits

Lecture/Laboratory 4 hours

Microcontroller System Design

Microcontroller architectures. Input/output, interrupts and timers. Programming of parallel ports, serial communication interfaces. Integrated laboratory experience. Prerequisite: ENGR1204 Programming Languages in Engineering, ENGR2286 Digital System Design or permission of instructor.

Spring

Fee

MENG4040

3 Credits

Lecture/Laboratory 4 hours

Heating, Ventilation and Air Conditioning

An introduction to some of the essential knowledge required to enter the field of HVAC&R engineering. Topics include: physical principles, heating loads, hydronic piping systems and terminal units, cooling-load calculations, psychrometrics, fluid flow in piping and ducts and air-distribution devices, air conditioning systems and equipment, refrigeration systems and equipment. Prerequisite: ENGR3351 Applied Thermodynamics.

Fall

MENG4041

3 Credits

Heating, Ventilation and Air Conditioning and Refrigeration Controls

Elements of control systems: sensors, operators, controls and control strategies (for HVAC&R) will be covered. A brief review of the processing of moist air (psychrometrics) will be offered. Finally, control systems for process control and the use of analog and direct digital controls will be applied to heating, ventilation, air conditioning and refrigeration. Prerequisite: MENG4040 Heating, Ventilation and Air Conditioning or permission of instructor.

Spring

MENG4248

3 Credits

Lecture/Laboratory 4 hours

Mechanical Engineering Design I

Principles of machine design, elements of stress analysis, rivets, belt and chain drives, springs and synthesis of mechanical systems, materials and their use in design. Prerequisites: ENGR2228 Strength of Materials and ENGR3431 Dynamics.

Fall

MENG4250

3 Credits

Lecture/Laboratory 4 hours

Mechanical Engineering Design II

Design of gears, clutches, shaft and couplings, bearings, brakes, lubrication and synthesis of mechanical systems. Prerequisite: MENG4248 Mechanical Engineering Design I.

Spring

MENG4355

3 Credits

Analog and Digital Control

Closed-loop feedback systems, general feedback theory, control-system design, stability, sensitivity, error response, root-locus, compensation techniques, digital control, discrete-time systems, design in Z-domain, controllability, optimal control. Prerequisites: EENG2221 Signals and Systems I and MATH2210 Differential Equations.

Fall

MENG4356

3 Credits

Stress and Vibration Analyses

The differential equations of stress and strain, shear flow, virtual flow, energy principles, curved beams, noncircular bars. Computer-oriented problem solving. Analysis of motion arising from lateral and torsional vibration of systems, free and forced vibrations, damping, isolation, balancing. Prerequisites: ENGR2228 Strength of Materials, ENGR3431 Dynamics and MATH2202 Applied Calculus II.

Spring

Medical Technology

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MENG4360

3 Credits

Lecture/Laboratory 4 hours

Industrial Automation

Manufacturing systems and their mechanization: design and analysis on control systems for production, materials handling and inventory logistics. Manufacturing automation and robotics technologies (requirements analysis and design). Electromechanical hardware and computer control. Economics of robotics and machine vision. Prerequisites: MENG2230 Manufacturing Processes; MENG4355 Analog and Digital Control or permission of instructor. *Spring*

MENG4365

3 Credits

Advanced Fluid Mechanics

Mass, momentum and energy-conservation equations. Navier-Stokes equation for viscous flows. Lubrication theory. Boundary layer flow. Potential flow. Turbulent flow. Compressible flow. Pumps and blowers. Piping systems. Prerequisite: ENGR4254 Fluid Mechanics.

MENG4375

3 Credits

Lecture/Laboratory 4 hours

Electrical Energy Conversion

General considerations of electromagnetic phenomena and magnetic circuits. Exercises with ferromagnetic loops and air gap. Transformer theory — equivalent circuits and phasors. Regulation and efficiency evaluation, rotating machinery, DC and three-phase systems. Power relationships, operating characteristics. Prerequisite: EENG2221 Signals and Systems I.

Fall

MENG4384

1 Credit

2 Contact Hours

Preparation for Senior Design Project

Research on choosing a design project, incorporating appropriate engineering standards and multiple realistic constraints and writing a project proposal for the mechanical engineering senior project. Prerequisite: Senior status. Co-requisite: MENG4248 Mechanical Engineering Design I.

Fall

MENG4386

2 Credits

2 Contact Hours

Senior Design Project

Students work on capstone design projects using the knowledge gained through past course work, following professional practice, applying design methodologies and exercising sound engineering judgment. Prerequisite: MENG4384 Preparation for Senior Design Project.

Spring

Medical Technology

Henry P. Becton School of Nursing
and Allied Health

MEDT1130

3 Credits

Bioethics

An interdisciplinary exploration of ethical issues in today's health care practice with particular emphasis on the role of the professional in ethical decision making. Topics include values clarification, ethical theories and principles, human subjects in research, informed consent, advanced directives, euthanasia and physician-assisted suicide. Work assignments include case analysis using ethical decision-making models. Prerequisite: faculty permission.

MEDT1201

3 Credits

Lecture 3 hours

Introduction to Medical Technology

Hospital laboratory, relationship of medical technology to patient and community health, organization and role of each clinical laboratory department, introduction to diseases, medical terminology.

MEDT4205, MEDT4206

32 Credits (16 Credits Each Semester)

Clinical Laboratory Education I, II

The student technologist rotates through the hospital departments, gaining didactic and practical experience under supervision in tests and procedures in clinical chemistry, hematology, coagulation, blood banking, serology, microbiology, immunohematology and clinical microscopy. Written examinations cover each phase of the work. Prerequisites: for MEDT4205 Clinical Laboratory Education I, six semesters of appropriate college work; MEDT4205 Clinical Laboratory Education I is a prerequisite for MEDT4206 Clinical Laboratory Education II.

Fee

MEDT4301

3 Credits

American Health Care

This class will examine and critically analyze the United States health care system, emphasizing the major trends and issues that have led the country to where it is today. In addition to providing a historical perspective, this course will establish a context for analyzing the current, varied approaches to health care financing, delivery and reform. While this course will focus on the U.S. health care system, the systems of other nations will be reviewed for comparison.

MEDT4302

3 Credits

Health Care Law and Policy

This class will analyze the complexity of the American health care system and the law and policy issues that must be confronted to achieve meaningful health care reform. Students will gain an appreciation of the dilemmas facing health care law and policymakers, providers, patients and how to balance cost, quality and access. It examines specific health care organization aspects such as the medical profession, hospitals, managed-care organizations and government health care programs. This course will also discuss law and policy changes that have major impacts on American health care in the past decade.

MEDT4303

3 Credits

Global Health

This course will cover the main principles of global health and introduce the student to the world's vast diversity of determinants of health and disease. Current and emerging health priorities such as infectious diseases, socioeconomic status and health, human rights, culture and health, maternal and child health, water and sanitation, parasitic diseases, health inequities and major global initiatives for disease prevention and health promotion.

MEDT4305

3 Credits

Current Topics in Health Science I

This is part one of the capstone course in the student's allied health discipline. The course will cover current topics/advances in the student's discipline. Students will review scientific literature on current advances and analyze the impact on the future of their allied health discipline.

MEDT4306

3 Credits

Current Topics in Health Science II

This is part two of the capstone course in the student's allied health discipline. The course will cover current topics/advances in the student's discipline. Students will review scientific literature on current advances and analyze the impact on the future of their allied health discipline. Prerequisite: MEDT4305 Current Topics in Health Science I.

MEDT4307

3 Credits

Health Studies Practicum

The health studies practicum is the capstone course for the health studies major. The course will include an internship in the field. Current topics, scientific literature and advances in the student's area of interest will be covered in this course.

Music • NursingUniversity College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus**NURS4420****3 Credits****Health Care Management**

An exploration of the current health care environment with implications for beginning-level managers. Topics to be discussed include managed care, health-care delivery models, interdisciplinary team building, resource management, case management, performance improvement and conflict resolution. Prerequisite: faculty permission.

NURS4430**3 Credits****Nursing Research**

Students are introduced to the research process. The course focuses on the professional health care worker as a research consumer. Critical appraisal skills are developed as a basis for evaluating research findings for application to clinical practice. Learning activities are designed to facilitate the students' understanding of allied health research, the research-utilization process and professional-role development. Prerequisite: faculty permission.

Music**School of Art and Media Studies****MUSIC1102****3 Credits****Music History and Literature**

Music from Gregorian chant to present-day forms presented through use of musical illustration. (Not open to those who take MUSIC1111, MUSIC1112 Development of Music I, II.)

*Fee***MUSIC1105****2 Credits****Music History**

Music from the Middle Ages to the present. Styles, forms and characteristics of vocal and instrumental music of each period. (Not open to those who take MUSIC1111, MUSIC1112 Development of Music I, II.)

MUSIC1107**3 Credits****World Music**

A course of music appreciation to acquaint the student with an overview of the global music scene.

MUSIC1108**3 Credits****From Elvis to J. Lo:****Pop Music of the Past 50 Years**

The class will involve the study of the development of popular music in America during the past half century in its cultural and historical contexts. The focus will be on the music itself — how and why it came about, its significance to youth and the broader American and world

cultures and what influence it will have on the future.

MUSIC1111**3 Credits****Development of Music I**

Music of Western civilization from ancient Greece to 1750, with some attention to significant historical and cultural influences. (Not open to those who take MUSIC1102 Music History and Literature or MUSIC1103 Music History.)

*Fee***MUSIC1112****3 Credits****Development of Music II**

Music of Western civilization from 1750 to the contemporary period presented with an emphasis on stylistic differences. (Not open to those who take MUSIC1102 Music History and Literature or MUSIC1103 Music History.) Prerequisite: MUSIC1111 Development of Music I.

*Fee***MUSIC3301****2 or 3 Credits****American Jazz and Popular Music**

American popular music styles. Ballads through ragtime, blues and various idioms of jazz. Third credit requires additional research.

Nursing**Henry P. Becton School of Nursing
and Allied Health****NURS1101****2 Credits****A Preview of Professional Nursing**

This course will introduce the student to nursing. The focus is on the history of nursing, overview of theories and frameworks used in professional nursing practice, standards of the profession including legal, ethical and moral dimensions and professional roles.

NURS2003**3 Credits****Lecture 2 hours****Fundamentals of Nursing I**

Focuses on the development of critical-thinking skills in order to formulate independent judgments, make decisions essential for nursing practice and develop fundamental professional attitudes and values. To this end, students are introduced to critical-thinking skills, nursing theory, the nursing process, role socialization and the nursing curriculum's conceptual model of caring as it applies to the well elderly population. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; CHEM1107, CHEM1117 Chemistry for Health Sciences; and MATH1105 College Algebra. Corequisite:

NURS2113 Laboratory: Fundamentals of Nursing I.

NURS2004**3 Credits****Lecture 2 hours****Fundamentals of Nursing II**

This course focuses on the theoretical basis of essential fundamental psychomotor skills necessary for professional nursing practice. Prerequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment, NURS2201 Health Assessment Laboratory and NURS2210 Pathophysiology. Corequisite: NURS2114 Laboratory: Fundamentals of Nursing II.

NURS2005**3 Credits****Lecture 2 hours****Professional Communication Skills:
Individual, Family and Groups**

This course builds on the development of critical-thinking skills to assist students in defining who they are, as individuals, in relation to attitudes to self and interactions with others, including one's family. Topics include an assessment of self, stress management, empowerment, family-systems concepts, cultural awareness and bereavement. Prerequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment, NURS2201 Health Assessment Laboratory, NURS2210 Pathophysiology and PSYC1105 General Psychology.

NURS2007**3 Credits****Pharmacotherapeutics**

This course provides the students with current knowledge concerning the wide spectrum of pharmacologic agents. Emphasis is placed on the administration of safe and therapeutically effective drug therapy. Major drug classifications are discussed in relation to administration methods, pharmacologic effects, toxicity and nursing precautions and implications. Pharmacotherapeutics is discussed in relation to life-span development changes, religious preferences and cultural customs. Prerequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment, NURS2201 Health Assessment Laboratory and NURS2210 Pathophysiology. Corequisites: NURS2004 Fundamentals of Nursing II and NURS2114 Laboratory: Fundamentals of Nursing II.

NURS2113**0 Credits****Laboratory 6 hours****Laboratory: Fundamentals of
Nursing I**

This nursing practicum is designed to provide students with opportunities to apply the nursing

Nursing

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process in a geriatric setting. Health promotion and health maintenance are emphasized, as well as adaptations in self-care required as a result of age-related changes. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for Health Sciences. Corequisite: NURS2003 Fundamentals of Nursing I.

NURS2114

0 Credits

Laboratory 6 hours

Laboratory: Fundamentals of Nursing II

This nursing practicum is designed to provide students with opportunities for continued discussion and application of the nursing process with adult clients in a variety of clinical settings. Prerequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment, NURS2201 Health Assessment Laboratory and NURS2210 Pathophysiology. Corequisite: NURS2004 Fundamentals of Nursing II.

NURS2200

4 Credits

Lecture 3 hours

Health Assessment

This course focuses on the development of comprehensive health-assessment skills. Measures of physical and functional status and health-promotion strategies for each body system will be discussed. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for Health Sciences. Corequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I and NURS2201 Health Assessment Laboratory.

NURS2201

0 Credits

Laboratory 4 hours

Health Assessment Laboratory

This nursing practicum provides students with opportunities to apply the nursing process in primary health care. Students obtain a health history and perform physical-assessment skills with a peer and another well adult. Data collected are systematically categorized and critically analyzed to formulate nursing diagnoses and develop a nursing-care plan. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for

Health Sciences. Corequisite: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I and NURS2200 Health Assessment.

NURS2210

3 Credits

Pathophysiology

This course focuses on alterations in biologic processes that affect the body's homeostasis, including etiology, pathogenesis, clinical manifestations and treatment of selected health problems. Knowledge of basic and clinical sciences is applied to simulated, clinical, nursing-practice situations. Prerequisites: BIOL2125, BIOL2126 Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for Health Sciences. Corequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment and NURS2201 Health Assessment Laboratory. *Generic: Fall*

NURS2217

2-3 Credits

Information Systems and Applications in Health Care

This course serves as an introduction to nursing and health care informatics. Course content includes an overview of computer basics, information terminology, data integrity and management, informatics theory, system life cycle and clinical applications. The purpose of this course is to provide a basic understanding of nursing and health care informatics and to facilitate decision-making based upon data, information, knowledge and wisdom.

NURS3208

3 Credits

Introduction to Health Care Economics

This course introduces the student to basic economic concepts and theories to analyze selected issues/problems in health care and to inform decision making and policy development. Fiscal management and basic budgeting concepts also will be covered.

NURS3209

3 Credits

Bioethics

An interdisciplinary exploration of ethical issues in today's health care practice with particular emphasis on the role of the professional in ethical decision making. Topics include: values clarification, ethical theories and principles, human subjects in research, informed consent, advanced directives, euthanasia and physician-assisted suicide. Work assignments include case analysis using ethical decision-making models. Prerequisites: BIOL2125, BIOL2126

Microbiology for the Health Sciences; BIOL2203, BIOL2223 Human Anatomy and Physiology I; BIOL2204, BIOL2224 Human Anatomy and Physiology II; and CHEM1107, CHEM1117 Chemistry for Health Sciences. Corequisites: NURS2003 Fundamentals of Nursing I, NURS2113 Laboratory: Fundamentals of Nursing I, NURS2200 Health Assessment, NURS2201 Health Assessment Laboratory and NURS2210 Pathophysiology.

NURS3300

5 Credits

Lecture 4 hours

Medical-Surgical Nursing I

This course focuses on selected health needs of adult clients and integrates physiologic, socio-cultural and behavioral alterations throughout. A broad, scientific knowledge base is presented, with an emphasis on prevention, caring, empowerment and critical thinking. Current nursing therapies for managing care of adults with pathophysiologic alterations are presented. Prerequisites: NURS2004 Fundamentals of Nursing II; NURS2005 Professional Communication Skills: Individual, Family and Groups; NURS2007 Pharmacotherapeutics; NURS2114 Laboratory: Fundamentals of Nursing II; and NURS3209 Bioethics. Corequisite: NURS3301 Medical-Surgical Nursing Laboratory I.

NURS3301

0 Credits

Laboratory 7 hours

Medical-Surgical Nursing Laboratory I

This nursing practicum provides students with opportunities to apply the nursing process in adult acute-care settings. Prerequisites: NURS2004 Fundamentals of Nursing II; NURS2005 Professional Communication Skills: Individual, Family and Groups; NURS2007 Pharmacotherapeutics; NURS2114 Laboratory: Fundamentals of Nursing II; and NURS3209 Bioethics. Corequisite: NURS3300 Medical-Surgical Nursing I.

NURS3310

5 Credits

Lecture 4 hours

Psychiatric Nursing

Within the context of exploding knowledge, increasing client acuity and the increasing demand for professional accountability, this course focuses on the application of crucial theoretical and clinical issues essential to the practice of psychiatric-mental health nursing in the 21st century. Prerequisites: NURS2004 Fundamentals of Nursing II; NURS2005 Professional Communication Skills: Individual, Family and Groups; NURS2007 Pharmacotherapeutics; NURS2114 Laboratory: Fundamentals of Nursing II; and NURS3209 Bioethics. Corequisite: NURS3311 Psychiatric Nursing Laboratory.

NURS3311**0 Credits****Laboratory 7 hours****Psychiatric Nursing Laboratory**

This nursing practicum provides students with opportunities to apply the nursing process in a psychiatric setting, educating clients and communities to help prevent or correct actual or potential health problems related to dysfunctional coping. Prerequisites: NURS2004 Fundamentals of Nursing II; NURS2005 Professional Communication Skills: Individual, Family and Groups; NURS2007 Pharmacotherapeutics; NURS2114 Laboratory: Fundamentals of Nursing II; and NURS3209 Bioethics. Corequisite: NURS3310 Psychiatric Nursing.

NURS3320**5 Credits****Lecture 4 hours****Women's Health Nursing**

This course focuses on women's health and its impact on families. Students address the health-care needs of women throughout their life span, and nursing-care needs of the childbearing family, from conception through the puerperium. Among the topics covered are the reproductive years, women's interface with the health care system, health problems unique to women, health care issues that affect women and women's role within the family. Prerequisites: NURS3300 Medical-Surgical Nursing I, NURS3301 Medical-Surgical Nursing Laboratory I, NURS3310 Psychiatric Nursing and NURS3311 Psychiatric Nursing Laboratory. Corequisite: NURS3321 Women's Health Nursing Laboratory.

NURS3321**0 Credits****Laboratory 7 hours****Women's Health Nursing Laboratory**

This nursing practicum provides students with opportunities to apply the nursing process to female clients and their families in a variety of health care settings. Prerequisites: NURS3300 Medical-Surgical Nursing I, NURS3301 Medical-Surgical Nursing Laboratory I and NURS3310 Psychiatric Nursing and NURS3311 Psychiatric Nursing Laboratory. Corequisite: NURS3320 Women's Health Nursing.

NURS3340**5 Credits****Lecture 4 hours****Nursing Care of the Child and Family**

In this course, students analyze the nursing-care needs of the child from infancy to young adulthood within the context of a family. Emphasis is placed on the application of knowledge from the biological sciences, social sciences, humanities and nursing to clinical nursing practice. Prerequisites: NURS3300 Medical-Surgical Nursing I, NURS3301 Medical-Surgical Nursing Laboratory I and NURS3310 Psychiatric Nursing and NURS3311 Psychiatric Nursing Laboratory.

Corequisite: NURS3341 Nursing Care of the Child and Family Laboratory.

NURS3341**0 Credits****Laboratory 7 hours****Nursing Care of the Child and Family Laboratory**

This practicum provides students with opportunities to apply the nursing process to pediatric clients in a variety of health-care settings. Prerequisites: NURS3300 Medical-Surgical Nursing I, NURS3301 Medical-Surgical Nursing Laboratory I, NURS3310 Psychiatric Nursing and NURS3311 Psychiatric Nursing Laboratory. Corequisite: NURS3340 Nursing Care of the Child and Family.

NURS3345**3 Credits****End of Life**

The course will explore the role of the nurse in providing palliative care and improving the quality of life for patients and their families at the end of life. The basic principles of pain assessment and management at the end of life will be reviewed. Topics will also include symptom management, key ethical issues and legal concerns, culture, communication, grief/loss/bereavement and care at the actual time of death. The loss experiences of the nurse will also be examined. The course will follow the End of Life Nursing Education Consortium (ELNEC) curriculum. Students will be designated "ELNEC trained" at the completion of the course.

NURS3352**3 Credits****Complementary Alternative Therapy**

This course provides an introduction to a variety of commonly practiced alternative modalities. Topics such as acupuncture, homeopathy and aromatherapy will be discussed and evaluated based upon current evidence-based research.

NURS3353**2 Credits****Introduction to Normal and Therapeutic Nutrition**

This course will introduce nursing and allied health students to the fundamentals of human nutrition as well as the role of dietary intervention in the treatment and management of chronic and acute medical conditions.

NURS3360**3 Credits****Intimate Violence**

This course will provide a multidisciplinary focus on victims and victimizers of intimate violence. Issues addressed will include child abuse, battering, rape, the witnessing of violence and the long-term effects of trauma.

NURS3371**3 Credits****The Professional Nurse in the 21st Century**

As the first offering of the sequence for the RN student, this course serves as a bridge from the RN's prior education to the B.S.N. program. The focus of the course is to develop the professional self as the baccalaureate-prepared nurse in today's changing health care system; examine the evolving health care delivery system and the context in which delivery takes place; and explore the issues, opportunities and constraints the profession faces today and into the next century.

NURS4410**5 Credits****Lecture 4 hours****Community Health Nursing**

This course emphasizes holistic care of clients in the community, considering families and individuals in a variety of settings, e.g., home, workplace, school and clinics. Prerequisites: NURS3320 Women's Health Nursing, NURS3321 Women's Health Nursing Laboratory, NURS3340 Nursing Care of the Child and Family and NURS3341 Nursing Care of the Child and Family Laboratory. Corequisite: NURS4411 Community Health Nursing Laboratory.

NURS4411**0 Credits****Laboratory 7 hours****Community Health Nursing Laboratory**

This nursing practicum is designed to provide students with an opportunity to practice independently and interdependently in a community health agency and in client homes. Students also select and conduct a primary-prevention teaching project with a lay group in a community. Prerequisites: NURS3320 Women's Health Nursing, NURS3321 Women's Health Nursing Laboratory, NURS3340 Nursing Care of the Child and Family and NURS3341 Nursing Care of the Child and Family Laboratory. Corequisite: NURS4410 Community Health Nursing.

NURS4420**3 Credits****Health Care Management**

An exploration of the current health care environment with implications for beginning-level managers. Topics to be discussed include managed care, health-care delivery models, interdisciplinary team building, resource management, case management, performance improvement and conflict resolution. Prerequisites: NURS3208 Introduction to Health Care Economics, NURS3320 Women's Health Nursing, NURS3321 Women's Health Nursing Laboratory, NURS3340 Nursing Care of the Child and Family and NURS3341 Nursing Care of the Child and Family Laboratory.

Philosophy

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NURS4430

3 Credits

Nursing Research

Students are introduced to the research process. The course focuses on the professional nurse as research consumer. Critical appraisal skills are developed as a basis for evaluating research findings for application to clinical practice. Learning activities are designed to facilitate the students' understanding of nursing research, the research-utilization process and professional-role development. Prerequisites: NURS3320 Women's Health Nursing, NURS3321 Women's Health Nursing Laboratory, NURS3340 Nursing Care of the Child and Family, NURS3341 Nursing Care of the Child and Family Laboratory and PSYC2201 Statistics or faculty permission.

NURS4440

8 credits

Lecture 6 hours

Medical-Surgical Nursing II

This capstone course focuses on illness-management strategies that integrate information from nursing, medicine, surgery and pharmacotherapeutics. Current therapies and interventions are explored. Prerequisites: NURS4410 Community Health Nursing, NURS4411 Community Health Nursing Laboratory, NURS4420 Health Care Management and NURS4430 Nursing Research. Corequisite: NURS4441 Medical-Surgical Nursing Laboratory II.

NURS4441

0 credits

Laboratory 16 hours

Medical-Surgical Nursing Laboratory II

This nursing practicum provides students with opportunities to apply the nursing process to multiple adults experiencing acute and/or chronic illness in a variety of health-care settings. The course includes synthesizing and applying leadership and management principles as a member of a health-care team to delivering nursing care to groups of patients. Prerequisites: NURS4410 Community Health Nursing, NURS4411 Community Health Nursing Laboratory, NURS4420 Health Care Management and NURS4430 Nursing Research. Corequisite: NURS4440 Medical-Surgical Nursing II.

NURS4444

0-3 Credits

Nursing Leadership Development

This course examines the leadership process and assists nursing students to develop as nursing leaders by participating in leadership development activities throughout the semester. Students will be encouraged to model leadership behaviors, communicate effectively with their peers and explore opportunities for nursing leadership within health-care organizations. This course will assist every student to develop a

better understanding of leadership techniques and principles and assist them to identify leadership strengths within themselves.

NURS4460

1 Credit

Preparation for Success

This course will focus on the application of critical-thinking skills to the comprehensive NCLEX-RN preparation program. Managing text anxiety and building confidence needed to pass the NCLEX-RN examination are an integral part of this course. Prerequisites: NURS4410 Community Health Nursing, NURS4411 Community Health Nursing Laboratory, NURS4420 Health Care Management and NURS4430 Nursing Research. Corequisites: NURS4440 Medical-Surgical Nursing II and NURS4441 Medical-Surgical Nursing Laboratory II.

Fee

NURS4800

1-3 Credits

Independent Study in Nursing

Independent study in nursing under the direction of a specific faculty member after consultation with the school director.

Philosophy

School of the Humanities

PHIL1000

3 Credits

The Life of the Mind

Do other people matter? What are the limits of toleration? Can we be citizens of the world? This inquiry-based introduction to the study of philosophy emphasizes the importance of critical thinking, moral reasoning and cross-cultural understanding for citizenship, professional life and scholarship across academic disciplines. Prerequisite: ENWR1001 Composition I: Rhetoric and Inquiry.
Fall, Spring

PHIL1101

3 Credits

Introduction to Logic

Principles of correct reasoning for understanding, analyzing and criticizing a variety of deductive and inductive arguments. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL1103

3 Credits

Ethics

Moral problems and theories. The good life and its goals: health, pleasure, divine approbation, obedience to natural law, utility. Moral concepts such as good, virtue and duty. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL1105

3 Credits

World Religions in America

This course is an exploration of the changing multi-religious landscape of the United States, looking at the history and dynamic interaction of the various religious traditions that now compose the American religious scene, with special emphasis on the religious life of Buddhists, Hindus, Sikhs, Jains and Muslims. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to RELI1105 World Religions in America.)

PHIL1110

3 Credits

Philosophical Problems

Basic problems of philosophical thought: mind/body, nature of reality, nature of science, existence of God, right and wrong, aesthetic experience. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2000

3 Credits

Logical Thinking

A course to sharpen logical thinking and persuasive argument through the study of deductive and inductive logic, common errors in reasoning (fallacies), problem-solving strategies and the critical analysis of reasoning in the law, science and politics. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2101

3 Credits

Ancient and Medieval Philosophy

Central issues in the history of Western philosophy from the sixth century B.C. through the 13th century A.D. Philosophers to be studied include the pre-Socratics, Plato, Aristotle, the Stoics, Epicureans, Augustine, Anselm, Aquinas and others. Prerequisite: one course in philosophy or permission of instructor. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2105

3 Credits

Current Moral and Social Issues

This course explores some of the most urgent and divisive issues in contemporary global society, such as human rights, terrorism and torture, abortion and euthanasia, genetic engineering and cloning, the moral standing of animals and attitudes toward love and sexuality. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2202

3 Credits

Modern Philosophy

Central issues in 17th- and 18th-century philosophy. Rationalism (Descartes, Spinoza and Leibniz). Empiricism (Hobbes, Locke, Berkeley

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and Hume). Kant. Prerequisite: one course in philosophy or permission of instructor. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2203

3 Credits

Contemporary Philosophy

Movements in 20th-century philosophy such as positivism, pragmatism, phenomenology, existentialism, logical analysis and ordinary language analysis studied through representative works. Prerequisite: one course in philosophy or permission of the instructor. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2205

3 Credits

Social and Political Philosophy

Plato's *Republic and Laws*. Aristotle's political realism. Thomas Aquinas and the theory of the natural law. Machiavelli's power politics. Social contract theories. Hobbes, Locke and Rousseau. Classic English liberalism. Hegel's historical idealism and Marx's historical materialism. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2206

3 Credits

Aesthetics

Theories of art from Plato to Dewey. Psychological and social determinants of art. Genres of art. Aesthetic appreciation and criticism. Art's relation to society, morality and science. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2207

3 Credits

Philosophy of Religion

God's existence and attributes, problem of evil, religious truth, religious views of history, myth and language systems, meaning in religion. (Equivalent to RELI2207 Philosophy of Religion.)

PHIL2251

3 Credits

Basic Jewish Thought

Study of major concepts in Judaism and their relationship to basic texts. Origins and nature of Jewish practice, including holiday observance. Overview of the thought of contemporary American denominations. Study of major ideas in Zionist thought. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2252

3 Credits

Judaism and Modernity

Jewish life and thought, self-understanding and survival from the 17th century, enlightenment and emancipation of the Jews of Europe to the

present day. The development of Zionism, secularism and Yiddishism, the European Shtetl, the emigration experience and the formation of American Judaism. Orthodox, Conservative, Reform and Reconstructionist; reactions to the Holocaust; ideologies of the state of Israel, the resurgence of the kabbalah and Judaic approaches to medical ethics. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2253

3 Credits

The Search for Meaning: Religious Responses

Examination of the religious thought of two Jewish and two Christian 20th-century figures. Through an analysis of the writings of Elie Wiesel, Abraham Heschel, Dorothy Day and Dietrich Bonhoeffer, the student will explore structures of religious experience in two monotheistic traditions. Special attention will be paid to the roles of religious ways of knowing in the formation of social and political philosophies. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2253 The Search for Meaning: Religious Responses.)

PHIL2254

3 Credits

War and Peace in Christianity, Judaism and Islam

Survey of key aspects of the thought and practice of the three major monotheistic traditions with regard to issues surrounding war and peace. Both scriptural writings and the writings of contemporary religious thinkers will be analyzed. Selected interreligious conflicts in the contemporary period will be discussed. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2254 War and Peace in Christianity, Judaism and Islam.)

PHIL2256

3 Credits

Fundamentalism in Religious Practice

This course examines the history and philosophy behind fundamentalism and extremes in various sects of Judaism, Christianity and Islam. Students will explore both ancient examples and modern trends in each of the religion's faiths, including Hasidism, Haredi movements in Israel, Jihad, terrorism, missionaries and evangelical movements. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2262

3 Credits

History of Jewish People I

This course will examine the history of the Jewish people from the destruction of the second temple in 70 C.E. through the expulsion of the Jews from Spain in 1492. Topics will include the development of Jewish literature,

Maimoedes, Jewish mysticism, Judaism and Christianity, Judaism and Islam. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2321

3 Credits

African Philosophy

Readings in and discussion of traditional and oral (e.g., sagacity), colonial (e.g., negritude) and postcolonial thought from Africa and about Africa with an emphasis on the contemporary. Consideration of a variety of philosophical subjects but especially aesthetics and sociopolitical thought. Exploration of the quandaries raised about the meaning of "African" and of "philosophy." Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2439

3 Credits

Radical Political Thought

This course explores major currents of political radicalism both within and outside of the dominant Western political tradition. Topics considered include antidemocratic radicalism, democratic radicalism, Marxian radicalism, radical feminism, radical individualism and post-colonial radicalism. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2439 Radical Political Thought.)

PHIL2440

3 Credits

Human Rights

The course examines several major themes and problems in contemporary human rights, including the meaning of human rights, its origins, philosophical justifications and its enabling documents. It also will discuss current philosophical debates arising from cultural relativism, religious claims and the assertion of group rights. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2440 Human Rights.)

PHIL2443

3 Credits

African-American Political Thought

This course explores the contributions of African-American political thinkers to the development of American political thought in general, considers the tensions and conflicts within African-American political thought and explores the significance of these thinkers to the understanding of contemporary race relations. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2443 African-American Political Thought.)

PHIL2444

3 Credits

Technology and Its Critics

Modern technologies have aroused both intense admiration and violent opposition. This course

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will provide an analysis of some of the issues raised by critics of modern technology such as Aldous Huxley, Lewis Mumford and Neil Postman. *This course meets exclusively online. FDU NetID (formerly Webmail) account required.* Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2444 Technology and Its Critics.)

PHIL2445

3 Credits

Democracy in America

This course explores the theory and practice of American democracy from the 19th century to the present day through a mixture of philosophical, historical, literary and social scientific readings and a variety of documentary and Hollywood films. Questions include: What are the theoretical foundations of American democracy? How does the practice of democracy in America deviate from these foundations? How has American democracy evolved? Why do so many Americans appear to hate politics? How should democratic citizens be educated? Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2445 Democracy in America.)

PHIL2446

3 Credits

Religion and Human Rights

This course will survey contemporary issues in the relationship between religion and human rights. Among the topics examined will be the values in various religious traditions, in particular Hinduism, Judaism, Christianity and Islam, which may underlie the protection of human rights. The course will also look at the persecution of religious minorities in today's world, the role of religion in suppressing human rights and how religion has served, in various instances, to champion human rights. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2446 Religion and Human Rights.)

PHIL2448

3 Credits

Comparative Religions

A study of the great religions of the world, with emphasis on how they affect events in the world today. The course explores components and meanings of Hinduism, Buddhism, Confucianism, Taoism, the theistic Western religions (Judaism, Christianity, Islam) and some less common religions. Subjects to be covered include religious ideas and institutions, cosmologies, systems of meaning and salvation. Extensive material on the web will be assigned. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2448 Comparative Religions.)

PHIL2450

3 Credits

History and Methods of Science

An interdisciplinary survey of the history of Western science from its roots in the ancient Greek natural philosophy up to the present time. Although the course will cover topics in the philosophy and history of all the sciences, emphasis will be placed on methodological developments. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2450 History and Methods of Science.)

PHIL2452

3 Credits

Ancient Political Thought

This course examines some of the foundational, political and social ideas of Western and Eastern civilization in historical context and comparative perspective. Topics include the origins of democracy, the degeneration of the ancient polity and the rebirth of the ancient conception of politics during the Renaissance. Readings encompass history, philosophy and literature, including selections from Confucius, Thucydides, Plato, Aristotle, Aristophanes, Cicero, Livy and Machiavelli. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2452 Ancient Political Thought.)

PHIL2545

3 Credits

The American Mind

This course explores some of the main sources of American social and political thought from the 18th century to the present, with particular emphasis on the relationship between democratic and individualistic principles. It also will investigate other major themes and problems in American social and political thought, including federalism, individualism, democracy, citizenship, American nationalism, etc. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2545 The American Mind.)

PHIL3500

3 Credits

Business Ethics

Primarily designed for the major in business, with emphasis on ethical problems confronting today's personnel in the marketplace. A brief history of the moralities underlying business; techniques in solving ethical dilemmas; some theory of the relation between self-interest and community concerns. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3501

3 Credits

Philosophy of Science

Theories of scientific meaning, deductive proof theory, formal systems, causal explanation,

probability theory. Theory of evidence and concept formation in the natural sciences.

Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3502

3 Credits

Symbolic Logic

Sentential and predicate logics: syntax, semantics and metalogic. Undecidability and incompleteness theorems for arithmetic. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3507

3 Credits

Slavery and Global Ethics

This course will analyze 17th- and 18th-century fictional and nonfictional representations of race and enslavement in tandem with the rise of Enlightenment political and ethical philosophy. Students will read texts by authors from North and South America, Europe and West Africa, each predicting economic and ethical consequences of the rise of the global economy. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3507 Slavery and Global Ethics.)

PHIL3510

3 Credits

Human Perspectives in a Computerized Society

An examination of the ethical, social and economic implications of computer technology as it challenges traditional values and man's image of himself. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3511

3 Credits

The Ethics of Food

This course examines the ethical dimensions of food production and consumption and explores contemporary food issues including vegetarianism, animal rights, global food security and sustainability, poverty and hunger, the industrialization of food production, biotechnology and genetic engineering. Students will apply ethical theories to cases on food ethics. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3516

3 Credits

Plato

Lecture and seminar in Plato's *Dialogues* designed to train the student in interpretation of Platonic texts and in metaphysical argumentation. Emphasis on metaphysics, theory of knowledge and philosophy of mind and their relations to ethics, politics and speculative psychology. For upper-division students only. Prerequisite: ENWR1002 Composition II: Research and Argument.

Physical Education

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PHIL3317

3 Credits

Theory of Knowledge

Nature, extent and forms of human knowledge. The roles of sense-perception and reason. The nature of truth and reality. Examination of various forms of skepticism. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3318

3 Credits

Existentialism

Introduction to the study of human consciousness through the philosophical and literary works of existential thinkers such as Kierkegaard, Nietzsche, Heidegger, Jaspers, Marcel, Camus, Sartre, Merleau-Ponty and Tillich. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL3319

3 Credits

The Holocaust: Philosophical Issues

A study of the Holocaust through the use of philosophical and religious essays, historical accounts, memoirs, novels, short stories and plays. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3319 The Holocaust: Philosophical Issues.)

PHIL4310

3 Credits

Modern Political Thought

This course introduces students to recurring themes and major problems of modern political and social thought. These include the nature and significance of politics, the meaning of freedom, the value of citizenship, the nature of legitimate authority, the connection between religion and politics, the nature of individual rights, the distinction between nationalism and patriotism and the connection between economic and political life. Particular emphasis will be given to the retrieval of classical political ideas by modern thinkers and the development of distinctly modern political ideas. The course is organized more or less chronologically so these themes can be examined historically as well as theoretically. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN4310 Modern Political Thought.)

PHIL4431

1–3 Credits Each Semester

Selected Studies in Philosophy

Studies in an area of philosophy not offered regularly. Descriptions of these courses can be obtained at the School of the Humanities office. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL4432

3 Credits

Gandhi: His Life, Philosophy and Legacy

An examination of Gandhi's life and work as the leader of India's freedom movement. A critical evaluation of his philosophy and techniques of nonviolent protest, as well as his impact on leaders such as Martin Luther King, Jr., Nelson Mandela and others. The relevance of Gandhi's ideas in the contemporary world will be discussed. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN4432 Gandhi: His Life, Philosophy and Legacy.)

PHIL4438

3 Credits

Ethics and Public Affairs

Does morality matter for politics? Or is power the only thing that really counts? This course explores the nature and validity of arguments for contemporary public policy issues such as abortion, capital punishment, racial profiling and the rules of war. *FDU NetID (formerly Webmail) account required.* Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN4438 Ethics and Public Affairs.)

PHIL4439

3 Credits

Questioning Religion

Discussion of readings from atheists, skeptics, saints, scoffers, believers, doubters, scientists and theologians to explore issues of doubt and faith, reason and religion, for and against the major religious traditions and in people's own lives. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN4439 Questioning Religion and RELI4439 Questioning Religion.)

PHIL4800

1–3 Credits Each Semester

Independent Study in Philosophy

Independent study under the direction of a specific faculty member after consultation with the school director.

Physical Education

Department of Physical Education

PHED1125

1 Credit

Karate

Koekian Karate, the art of empty-hand defense. Exercise for the development of firm, flexible muscles, weight control and overall coordination. Instructors are members of the All Japan Karate-Do Federation and the Amateur Athletic Union (A.A.U.).

Fall

PHED1133

1 Credit

Personal Fitness

Basic knowledge of exercise and diet in relation to weight control and development of various areas of the body. Games, jogging and universal gym facility used to develop fitness levels.

Spring

PHED1157

1 Credit

Yoga

Hatha Yoga as a means of achieving a healthy body and inner tranquillity. The understanding and practice of relaxation, controlled breathing techniques and yoga postures (asanas).

Fall, Spring

PHED1167

1 Credit

Weight Training

Use of nautilus machines and dumbbells for strengthening and toning major muscle groups.

Fall

PHED1180

1 Credit

Stress Management

Students will identify the sources and symptoms of stress in their lives and be responsible for developing their own personalized stress-management programs. Topics covered include exercise, nutrition, time management, relaxation techniques and assertiveness. Students will utilize the resources available in the Wellness Center Stress Lab to help them identify and achieve health-enhancing lifestyle goals.

Fall

PHED1422

1 Credit

Current Topics in Nutrition

This course will cover principles of applied nutrition as well as explore currently "hot" topics related to nutrition and health. Topics to be covered include, but are not limited to the following: role of macro/micronutrients, including proteins, carbohydrates, fat, vitamins and mineral water; nutrition for optimal physical and mental performance; weight control: myth vs. reality; and nutritional supplements and assessment of the validity of health and nutrition information.

Fall

PHED2422

3 Credits

Health and Nutrition

The importance of well-being as it relates to nutrition and health. The course will go into detail on topics of the body's major fuel sources and how exercise contributes to the healthy person. This class will include lecture and laboratories.

Spring

Physics • Political Science

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PHED4436

2 Credits

CPR and Emergency First Aid

This course teaches the student the knowledge and practical skills needed to respond to various emergency situations: burns, wounds, respiratory and cardiac problems, broken bones, poisoning, etc. Certification upon successful completion of course.

PHED4800

1–3 Credits

Independent Study in Physical Education

Independent work on a specific problem relating to a lifetime sport, dance or physical skill. The problem, activity and solution must be approved by the coordinator. Prerequisites: completion of a beginning-level course and/or permission of the coordinator.

Fall, Spring

Physics

School of Natural Sciences

PHYS114

3 Credits

Lecture 2 hours; Laboratory 2 hours

Physics for Radiography

After a brief discussion of concepts from mechanics and thermodynamics needed in radiography, the course will focus on electromagnetism, atomic structure, ionizing radiation, electric circuits, the x-ray tube, etc.

PHYS1125, PHYS1025

3 Credits

Lecture 2 hours; Laboratory 2 hours

Astronomy

Orbital motion, telescopes, stellar astronomy, celestial coordinates, the solar system and its evolution, types of stars, galaxies and the universe. Prerequisites: elementary algebra and geometry.

Fee

PHYS1126, PHYS1026

3 Credits

Lecture 2 hours; Laboratory 2 hours

Earth Physics

A laboratory science elective intended for liberal arts students, life science and non-science majors. Can be taken before or after PHYS1125, PHYS1025 Astronomy or GEOL1101, GEOL1111 Introductory Geology*. A topical treatment, not highly mathematical. The origin of the earth as a member of the solar system, composition and internal structure of the earth, geophysics, the hydrosphere, the atmosphere, physical oceanography and the related question of natural and artificial pollutants.

PHYS2101

3 Credits

Lecture 3 hours

General Physics I

The first semester of a survey of physics: mechanics, heat, sound, optics. A quantitative, noncalculus treatment. For engineering technology students only. Prerequisites: intermediate algebra and trigonometry. Corequisite: PHYS2201 Physics Laboratory I.

PHYS2102

3 Credits

Lecture 3 hours

General Physics II

The second semester of a survey of physics: electricity, magnetism, waves, light, modern physics. A quantitative noncalculus treatment. For engineering technology students only. Not for science majors. Prerequisite: a grade of C- or better in PHYS2101 General Physics I. Corequisite: PHYS2202 Physics Laboratory II.

PHYS2201

1 Credit

Laboratory 3 hours

Physics Laboratory I

Experiments from mechanics, heat, sound and fluids. Measurement and data analysis. Corequisite: PHYS2101 General Physics I or PHYS2203 University Physics I.

Fall

Fee

PHYS2202

1 Credit

Laboratory 3 hours

Physics Laboratory II

Experiments from electricity, magnetism, circuits, waves, optics, light, modern physics. Measurement and data analysis. Corequisite: PHYS2102 General Physics II or PHYS2204 University Physics II.

Spring

Fee

PHYS2203

3 Credits

Laboratory 4 hours

University Physics I

The first half of a two-semester, calculus-based physics course for science and engineering majors. Topics normally covered include: units and dimensions, forces and motion in one and two dimensions, vectors, momentum and center of mass, work, kinetic energy and the work-energy theorem, potential energy and the conservation of energy, rotation and moment of inertia, torque and angular momentum, gravitation, oscillations, elasticity, fluids, kinetic theory of gases, thermodynamics. Corequisite: MATH1201 Calculus I and PHYS2201 Physics Laboratory I.

PHYS2204

3 Credits

Lecture 4 hours

University Physics II

The second half of a two-semester, calculus-based physics course. Topics normally covered include: waves and sound, geometrical and physical optics, electrical forces and fields, electric potential, current and resistance, circuits, capacitance, magnetic forces and fields, force on a moving charge, magnetic field of a current, electromagnetic induction, electromagnetic oscillations and waves, alternating currents, special relativity, quantization and modern physics. Prerequisite: a grade of C- or higher in PHYS2203 University Physics I. Corequisite: PHYS2202 Physics Laboratory II.

PHYS3205

3 Credits

Lecture 3 hours

Modern Physics

The optional third semester of a calculus-based physics sequence for science and engineering majors. Topics normally include special relativity, end of classical physics, photons and quantization, wave functions and uncertainty, one-dimensional quantum mechanics, atomic physics, nuclear physics and elementary particles. Prerequisites: MATH2202 Calculus II and PHYS2204 University Physics II.

PHYS4430

1–3 Credits Each Semester

Selected Studies in Physics

Studies in special areas of current interest to physics.

PHYS4800

1–3 Credits Each Semester

Independent Study in Physics

Independent study under the direction of a specific faculty member with approval of the school director.

Political Science

School of Criminal Justice, Political Science and International Studies

POLS1101

3 Credits

Introduction to Political Science

The basic concepts of the discipline, its schools of thought, its subfields and terminologies.

POLS1102

3 Credits

Geography and World Issues

This course investigates the linkage among geographical factors, political process and economic systems. This class will focus on that relationship as it impacts the political, economic and human environment of this diverse geopolitical world.

*Open to Vancouver Campus students only.

Political Science

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

POLS2010

3 Credits

Nationalism and Ethnic Violence

This course provides students with a broad overview of the major theories of nationalism, paying particular attention to ethnic violence and conflict. Emphasis is on the critical evaluation of different theories of both nationalism and ethnic conflict, with case studies illustrating the competing theories.

POLS2204

3 Credits

International Relations

The state system and the basic principles regulating international relations; power and use and threat of force; nationalism, imperialism; diplomacy, the transnational economy, international law and organization.

POLS2205

3 Credits

Comparative Legal Systems

Comparisons and contrasts of the Anglo-American and major European legal traditions.

POLS2206

3 Credits

American Minority Politics

The course will examine the goals and political strategies of women, blacks and Hispanics. It will consider the influence of political participation (voting and protests) and office holding (appointed and elected) on public policies which benefit specific minorities. The course will focus on minority politics from the 1960s to today.

POLS2211

3 Credits

International Organization

Origin and development of international organizations: the League of Nations, United Nations, regional organizations.

POLS2212

3 Credits

International Law

Development and principles of international law, nature of diplomatic relationship, international agreements, jurisdiction over persons and property, tariff and shipping relations, arbitration of disputes; operations of international institutions.

POLS2219

3 Credits

Global Scholars Seminar in Political Studies

Should global interests precede national interests? What goals should states pursue? Are states obsolete? Will soft power compete with military power? Is the clash of civilizations prediction or unfolding of reality? The competency measure of the seminar is a field experience that examines the impact of perception on political and social construction of images in the 21st century.

POLS2251

3 Credits

Comparative Government and Politics

Comparison of the development and functions of governmental institutions of selected modern political systems.

POLS2252

3 Credits

Political Thought and Theory

Evolution of political ideas and institutions from antiquity to modern times, and their interrelationship with the societal environment.

POLS2254

3 Credits

Political Geography

Concepts basic to political geography. Elements of state/geographical characteristics: core, domain, boundaries, pressure points, location, climate, raw materials. Relation of political organization to people and culture. Nature and limitations of sovereignty.

POLS2251

3 Credits

Foreign Policy of the United States

Constitutional and political factors that determine the formulation, execution and substance of American foreign policy.

POLS2255

3 Credits

American Government

Federalism, with emphasis on the national government, politics and the relation of the individual to the central government.

POLS2254

3 Credits

Public Policy

This course is issue-oriented and focuses on substantive issues of public policy that significantly affect the life of every American.

POLS2606

3 Credits

Ethics and Politics

This course is concerned with ethical issues in modern politics, both national and global. Ethical questions and dilemmas such as the use of violence, government secrecy, deception, civil disobedience, public good, corruption, ethics, activist politics and justice are among the possible topics for discussion.

POLS3010

3 Credits

Nationalism and the Modern State

Focuses on the nature, causes and consequences of national identity as a collective phenomenon and the manifestation of nationalism as a form of politics.

POLS3011

3 Credits

Human Rights in Global Environment

Introduction to the developing systems, laws and norms for the promotion and protection of human rights in the world today. Understanding legal, political and economic aspects of human rights. The course will discuss ideological and cultural perspectives, sources of violations, women's rights and the role of nongovernmental organizations.

POLS3201

3 Credits

Developing a Sustainability Mindset in a Globalized World

Developing a sustainability mindset through project-based action exercises utilizing the United Nations Sustainable Development Goals (UNSDG) platform. The course will introduce three perspectives of sustainability mindset: systems perspective, innovative thinking and being orientation. Students will select one UNSDG and develop a project-based plan of action to achieve specific targets to make a difference in a globalized world.

POLS3202

3 Credits

United Nations: Institutions and Global Governance

The course provides students with an in-depth understanding of the United Nations core institutions and policies, engagements in problem solving and challenges in international civil order and global governance in historical and contemporary contexts. The course has two components: it combines class lecture and discussion, individual research and group work, with participatory weekly onsite visits to the United Nations.

POLS3311

3 Credits

The American Presidency

The role of great presidents in the expansion of presidential power.

POLS3312

3 Credits

The American Congress

The organization and procedures of Congress.

POLS3313

3 Credits

Problems in International Politics

Identification and analysis of significant current problems in the international arena.

POLS3324

3 Credits

American Minority Groups

The major American racial, ethnic and religious groups, their historical development, adjustment, assimilation, contemporary problems and trends.

Political Science

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

POLS3327

3 Credits

Civil Rights and Liberties

The development and present status of rights and liberties in religion, politics, association, speech, the press and assembly, the rights of minorities and women.

POLS3331

3 Credits

American Political Thought

The main theme of this course will be the American dream, versions of which permeate American political thought. To capture something of the richness and diversity of American political thought with reference to this theme, short selections representative of major American political and social movements, including the abolitionist movement, the women's rights movement, etc. will be read. The course is organized roughly chronologically, so themes and movements may be examined historically as well as conceptually.

POLS3334

3 Credits

The Soviet Union and Russia

The events and results that ended the rule of the superpower. The current role of Russia in international affairs.

POLS3338

3 Credits

India and Its Neighbors

Survey of institutional structures of, and relations among, the South Asian countries including: India, Pakistan, Nepal, Bhutan, Bangladesh and Myanmar.

POLS3345

3 Credits

Modern Ideologies

Ideologies of modern times including Liberalism, Nationalism, Democratic Socialism, Marxism and Nazism, and the new ideologies of the Third World.

POLS3349

3 Credits

African-American Politics

Discusses the impact of the African-American voter on U.S. politics since the Reconstruction period. Emphasizes the modern period and the growth of political organizations.

POLS3352

3 Credits

Government and Politics of the Third World

Patterns of political development of selected nations of the Third World.

POLS3354

3 Credits

Political Parties and Pressure Groups

Organization and operation of political parties in the United States.

POLS3355

3 Credits

American Constitutional Law I

Basic issues and cases in American constitutional law, with emphasis on the role of the Supreme Court; political and theoretical contributions of the Court to American development.

POLS3356

3 Credits

American Constitutional Law II

Basic issues and cases in American constitutional law, with emphasis on the Supreme Court and current decisions.

POLS3361

3 Credits

Politics of East Asia I

Historical and political development of East Asia, with emphasis on China and Korea.

POLS3362

3 Credits

Politics of East Asia II

The history and political development of East Asia, with emphasis on Japan, Indochina and Indonesia.

POLS3363

3 Credits

Middle East Politics

Political, social and economic development of Middle Eastern states.

POLS3364

3 Credits

Middle East in World Affairs

The Middle East's political and economic impact on the international environment.

POLS3365

3 Credits

Latin America in World Affairs I

Colonial and early national periods of the selected nations of the Caribbean, Central and South America with emphasis on political development (1700–1900).

POLS3366

3 Credits

Latin America in World Affairs II

The recent history and policies of selected Latin-American nations with emphasis on current U.S. relations (1900–present).

POLS3367

3 Credits

Africa in World Affairs I

Early African civilizations and examination of the history of major regions of Africa since

World War II. Selected problem areas affecting Africa's relations with the U.S. and the world.

POLS3368

3 Credits

Africa in World Affairs II

Examination of the development of major regions of Africa since World War II. Selected problem areas affecting Africa's relations with the U.S. and the world.

POLS3501

3 Credits

Globalization and World Citizenship

This course examines the impact of globalization and the case for world citizenship. Students will study the elements of globalization and the evolving networks that transcend the nation-state. They also will explore the foundation for world citizenship and the potential rights, responsibilities and opportunities belonging to world citizens.

POLS3502

3 Credits

Politics and the Global Economy

Studies the relationship between political events and economic actions on the international economy.

POLS4320

3 Credits

Women's America

This course focuses on the role of women in the American political system from colonial times to the present. It focuses on their participation, nonparticipation and successes over the years. Political analysis will be the prime methodology.

POLS4341

3 Credits

Political Leadership and Changing International Order

A comparative study of contemporary political leadership using the state-civil society dichotomy as the framework. The competency measure is a travel-abroad field experience.

POLS4430

1–3 Credits Each Semester

Selected Studies in Political Science

Studies in an area of political science for which no formal course is offered.

POLS4431

3 Credits

Politics of the Environment

The course analyzes the roles of national and international governments, groups and social movements on environmental issues and policies. Moral and ethical issues as well as interpreting "facts" will be discussed.

Psychology

University College: Arts • Sciences • Professional Studies
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POLS4460

3 Credits

New Europe

The study of the state system in Europe and its Europeanization in transitional cooperation and integration. The impact of global and regional issues of conflict.

POLS4462

3 Credits

Terrorism and Political Violence

This course will examine the overall scope of contemporary terrorism and political violence. It will study the causes and impact of terrorism on contemporary politics. It will also examine the changing political landscape after September 11, 2001.

POLS4465

3 Credits

Political and Economic Challenges in Africa

This course examines contemporary issues in Africa. Emphasizing trends in political and economic developments, the focus will include, among others, an examination of human-rights trends across the continent, the impact of globalization, environmental issues, sustainable development, conflict resolution and health issues.

POLS4511

3 Credits

U.N. and Human Security

Analysis of the United Nation's approach, involvement, success and failures in the arena of human security.

POLS4600

3 Credits

Political Science Seminar

To research and write a culminating project that reflects the students' knowledge and understanding of the discipline.

POLS4800

1–3 Credits Each Semester

Independent Study in Political Science

Independent study under the direction of a specific faculty member after consultation with the school director. Limited to a total of 6 credits.

POLS4875

Variable Credits

Honors in Political Science

Independent study in political science for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

Psychology

School of Psychology

PSYC1103

3 Credits

General Psychology

A survey of topics including, but not limited to, research methods, brain and behavior, motivation, consciousness, development, sensation and perception, learning, memory and cognition, emotions, personality, social psychology and psychological disorders.

PSYC1125

3 Credits

Introduction to Social Service Advocacy

This course introduces students to the fundamental concepts and theories of social service advocacy and social work and explores the practical implication of these on organizations, communities, groups, families and individuals (the client). The course is centered on three major components of social-work practice: 1) inequality and social justice, 2) social welfare policy and 3) social practice methods. The course will also explore human behavior and development as well as needs and services within the legal and organizational context of the discipline. (Equivalent to CRIM1125 Introduction to Social Service Advocacy.)

PSYC2126

3 Credits

The Interview

Interviewing principles and techniques, with emphasis on the information-gathering interview used in educational, industrial and clinical settings. Recommended for students in education, personnel management, psychology and social work. Prerequisite: PSYC1103 General Psychology.

PSYC2201

3 Credits

Statistics

Statistical concepts and procedures, with emphasis on descriptive statistics and an introduction to inferential statistics. Relevance to behavioral sciences.

PSYC2204

3 Credits

Child Development

Growth and development of children in terms of sensorimotor, intellectual and social behavior. Scientific findings and theoretical viewpoints presented with implications concerning the child for the family, school and community. Prerequisite: PSYC1103 General Psychology.

PSYC2234

3 Credits

Social Psychology

Representative theories and selected problems concerning determinants of social behavior. Socialization, attitude structure and change, social norms, prejudice, leadership and group dynamics. Prerequisite: PSYC1103 General Psychology.

PSYC2235

3 Credits

Positive Psychology

Introduction to the scientific basis and principles of positive psychology. Exploration of how the field of positive psychology offers the possibility of prevention of serious mental illness. Courage, optimism, interpersonal skill, work ethic, hope, responsibility, future-mindedness, honesty and perseverance are all examined, as are the practice of civic virtue and the pursuit of the best things in life.

PSYC5100

3 Credits

Psychology of Belief

This class looks at why people believe what they believe. The course will touch on a wide range of supernatural or unexplainable phenomena such as magic, ghosts, astrology, psychic abilities, parapsychology and religious belief. It will examine different types of belief and what causes a person to believe. This highly interactive class emphasizes critical thinking and skeptical inquiry.

PSYC5202

3 Credits

Experimental Psychology

Introduction to methods of scientific experimentation in psychology by means of laboratory experiments, studies of problems in the design of experiments and the analysis of data as reported in the experimental literature. Reports of experiments will be required. Prerequisite: PSYC2201 Statistics.

Fee

PSYC5301

3 Credits

Drugs and Behavior

Therapeutic and recreational use of psychoactive drugs, including alcohol, nicotine and caffeine. Emphasis on modes of action, behavioral effects and psychological aspects of tolerance and dependence.

PSYC5304

3 Credits

Psychometrics

Theory and practice of psychological testing and basic principles of psychometrics, including a critical survey of representative tests of aptitude, ability, interest, attitudes and personality.

Psychology

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PSYC3305

3 Credits

Adolescent Growth and Development

Factors contributing to adolescent mental health, behavior and adjustment are covered. Developmental characteristics, the impact of culture as well as intra- and interpersonal issues are integrated into the understanding of adolescent functioning. Risk factors particularly associated with juvenile delinquency and conduct disorder are emphasized, examining etiology, prevention and treatment. Prerequisite: PSYC1103 General Psychology.

PSYC3306

3 Credits

Psychology of Aging

The geriatric years, with emphasis on causes of aging, personality, sexuality, sensation and perception, psychopathology, intelligence and memory. Prerequisite: PSYC1103 General Psychology.

PSYC3307

3 Credits

Human Sexuality

Application and discussion of psychological and biological issues related to sexual anatomy, physiology of the sexual response, sexually transmitted diseases, homosexual and bisexual patterns, unconventional sexual behavior and sexual coercion and exploitation. Application of human sexuality issues to the law and legal issues will be covered with particular emphasis on the psychology of the sex offender.

PSYC3308

3 Credits

Educational Psychology

Application of psychological theory to formal and informal practices, with emphasis on the role of the person guiding someone else's learning. Theories and principles of learning, motivation, measurement of behavior and emotional adjustment. Prerequisite: PSYC1103 General Psychology.

PSYC3311

3 Credits

Psychology of Love and Interpersonal Relations

Psychological aspects of the role of love and attachment in human relationships. Topics addressed include phenomenology and historical evolution of love styles, the function of love, attraction and initiation of love relationships and marriage.

PSYC3315

3 Credits

Abnormal Psychology

Science of psychopathology. Descriptive study of syndromes and etiology of the major behavior disorders, anxiety-related disorders, stress-based disorders, sociopathies and mental deficiencies. Prerequisite: PSYC1103 General Psychology.

PSYC3317

3 Credits

Psychology and the Law

Application of psychological principles to legal problems. Analysis and implications of court decisions. Current controversies: insanity defense, jury selection, persuasive techniques, sentencing, competency, use of hypnosis, capital punishment, psychological testing. Conducting forensic interviews will be incorporated.

PSYC3319

3 Credits

The World of the Psychopath

This course will provide students with a broad overview on psychopathy focusing on key elements of this "condition" and dismissing myths associated with it.

PSYC3325

3 Credits

Psychology of Women

Various theories of the psychology of women contrasted with recent research findings about sex differences.

PSYC3330

3 Credits

Health Psychology

Examination of psychological factors that affect how people stay healthy and how and why they become ill. Specific topics to be addressed include the mind-body relationship, stress and coping, pain, cardiovascular disorders, psychoimmunology, eating disorders and substance abuse. Prerequisite: PSYC1103 General Psychology.

PSYC3332

3 Credits

The Psychology of Religion

Influence of religion on personality and behavior. Religious beliefs, feelings, effects, self-actualization and neurosis.

PSYC3338

3 Credits

Cognitive Processes

This course will present in-depth treatments of many topics in cognitive psychology, with some attention paid to cognitive neuroscience. Each day, a person performs a number of cognitive tasks, such as remembering how to get to school, recognizing a friend's face in a crowd, deciding where to eat lunch and what to eat and deciding when to go to sleep at night. In this course, students will begin by exploring lower-level processes (e.g. perception) and proceed to higher-level processes (e.g. reasoning). Prerequisite: PSYC1103 General Psychology.

PSYC3339

3 Credits

Psychology of Prejudice and Intergroup Relations

This course examines classic (e.g. the Authoritarian Personality) and contemporary (e.g. Implicit Bias) understandings of prejudice and its relationship to intergroup relations, stereotyping and discrimination. The course will also include discussion of social psychological interventions aimed at reducing prejudice, as well as the policy implications of such interventions. Prerequisite: PSYC1103 General Psychology.

PSYC3359

3 Credits

Sport Psychology

An introduction to the role of psychology in sports. Major issues addressed include the scientific basis of sport psychology, arousal/anxiety and clinical interventions, cognitive processes in sport behavior, aggression and group performance and coaching behavior.

PSYC3365

3 Credits

Psychology of Creativity

The aim of this course is to demystify the process of creative thinking, survey the major theories of creativity and explore the lives of several highly creative individuals using the case-study method. Creative achievements in the arts and sciences will be reviewed as well as innovations in industry.

PSYC3370

3 Credits

Psychology of Men

The psychological development of men, gender-role conflict, men's health, men in families, roles and identities, sexual orientation, the men's movement, ethnocultural factors and alexithymia. Incorporation of theory and empirical evidence.

PSYC3381

3-4 Credits

Field Placement

Supervised experience in community agencies for a minimum of 60 hours, plus a weekly one-and-a-half-hour seminar. Integration of psychological theory and practical applications. Recommended for juniors and seniors. Admission by permission of the instructor. Prerequisite: PSYC1103 General Psychology.

PSYC3384

3 Credits

Theories of Personality

Major approaches to personality theory, with emphasis on empirical studies in context of the various theories. Prerequisite: PSYC1103 General Psychology.

Psychology

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PSYC3393

3 Credits

Child Behavior Disorders

Etiological and developmental aspects of abnormal behavior in children; biological, cultural and psychological influences of a wide range of childhood behavior disorders (e.g., schizophrenia, autism, mental retardation, anxiety disorders). Prerequisite: PSYC3315 Abnormal Psychology.

PSYC3394

3 Credits

Disorders of Addiction

Disorders of addiction such as alcohol and other drug abuse, smoking, eating and compulsive gambling are discussed in depth. Emphasis is placed on theory, epidemiology, symptomatology, course, assessment and treatment. Prerequisite: PSYC3315 Abnormal Psychology.

PSYC3421

3 Credits

Psychology of Criminal Behavior

The psychological bases and dynamics of criminal behavior. Use of cases from the forensic psychology literature to illustrate various theoretical and explanatory aspects of criminal behavior. Emphasis on the relationships between various psychopathological conditions, personality disorders and criminal and antisocial behavior. Prerequisite: PSYC3315 Abnormal Psychology.

PSYC3800

1–3 Credits Each Semester

Junior Independent Study in Psychology

Independent study under the direction of a specific faculty member after consultation with the school director.

PSYC3900

3 Credits

Psychology of Emerging Adulthood

Emerging adulthood or those years between adolescence and adulthood are important to the development of a productive adult life. Normative and non-normative issues, clinical implications as well as prevention strategies and evidence-based early interventions are discussed. Prerequisites: PSYC1103 General Psychology and PSYC2204 Child Development.

PSYC4309

3 Credits

Advanced Social Psychology

This course reviews social psychological theory and research techniques that are relevant to problems in applied settings (e.g. the legal system, business and industry, community and mental health). Topics include, but are not limited to, attitude formation, attitude change, prejudice and discrimination, altruism and attribution theory. Prerequisite: PSYC2234 Social Psychology.

PSYC4376

3 Credits

Advanced Abnormal Psychology

Considers the more debilitating disorders and reviews various psychopathologies in depth. Discussion of psychotherapeutic and somatic approaches. Prerequisite: PSYC3315 Abnormal Psychology.

PSYC4377

3 Credits

Physiological Psychology

Relationship between aspects of behavior and physiology. Basic neuroanatomy; neurophysiology; and the effects upon behavior of drugs, cortical lesions and internal secretions. Prerequisites: PSYC1103 General Psychology and 3 additional credits in psychology.

PSYC4391

3 Credits

Techniques of Psychotherapy

Techniques used by several schools of psychotherapy and research in the field. Application of behavioral principles to behavior and relationship variables in therapy. Prerequisite: PSYC1103 General Psychology and either PSYC3315 Abnormal Psychology or PSYC3384 Theories of Personality.

PSYC4398

3 Credits

Computer Applications for Data Analysis

This course will cover the usage of SPSS statistical software and related programs (e.g. Excel) for data management, analysis and graphing. Emphasis will be placed on using graphical interface of SPSS software, but program syntax for various applications also will be covered. This course will also cover scientific report writing (e.g. summarizing SPSS output) with emphasis placed on APA style.

PSYC4498

3 Credits

Internship in Psychology

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills.

PSYC4499

3 Credits

Co-op Education in Psychology

Integration of classroom study with specific planned periods of supervised learning in productive employment experiences. A developmental process designed to combine progressive learning on the job, University course work and career-development skills. Prerequisite: permission of the director of the co-op program.

PSYC4500

3 Credits

Senior Seminar in Psychology

A capstone course for psychology majors to both unify and provide a broader context for knowledge about the field of psychology gained throughout the undergraduate years. The course is designed to evaluate critical thinking and to prepare students for their career paths following graduation. Particular emphasis will be placed on helping students explore the connections among themselves, the field of psychology and the rest of the world. Students will be required to write integrative review papers, give oral and poster-format presentations and defend their e-portfolios. Prerequisite: PSYC3202 Experimental Psychology.

Fee

PSYC4501

3 Credits

Advanced Senior Seminar in Psychology

A capstone course for psychology majors to unify and apply knowledge and skills gained in previous courses. Students will gain an understanding of how to integrate, critically evaluate and apply psychological theory and empirical findings to address problems and topical issues in the behavioral sciences. Heavy emphasis is placed on report writing and oral presentation of research projects. Prerequisites: PSYC2201 Statistics and PSYC3202 Experimental Psychology.

PSYC4800

1–3 Credits Each Semester

Senior Independent Study in Psychology

Independent study under the direction of a specific faculty member after consultation with the school director. Limit of 6 credits.

PSYC4875

1–6 Credits

Honors Psychology

Independent study in psychology for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

Graduate Courses

Graduate courses may be taken by seventh- or eighth-semester students who receive the approval of the school director. Interested students should see the *Graduate Studies Bulletin* for a list of courses and descriptions.

Radiography

University College: Arts • Sciences • Professional Studies
Metropolitan Campus and Vancouver Campus

Radiography

*Henry P Becton School of Nursing
and Allied Health*

RADT1101
3 Credits

Introduction to Radiography and Protection

This course introduces the student to the diagnostic imaging department and to the health care environment, radiation safety and protection, medical law and ethical practice. Diverse issues related to these topics will be explored. Corequisites: RADT1105 Radiographic Procedures I, RADT1110 Clinical Practicum I, RADT1131 Principles of Radiographic Exposure I and RADT1150 Fundamentals of Patient Care.

RADT1105
4 Credits

Radiographic Procedures I

This is the first course in a series of four courses that are designed to orient the student radiographer to anatomy, positioning, physiology, terminology and imaging procedures of the thorax, abdomen and upper limb. Acceptable practices and principles that are introduced in lecture are reinforced in structured laboratory and clinical practice. Corequisites: RADT1101 Introduction to Radiography and Protection, RADT1110 Clinical Practicum I, RADT1131 Principles of Radiographic Exposure I and RADT1150 Fundamentals of Patient Care.

RADT1110
1 Credit

Clinical Practicum I

The first course in a series of eight clinical-education courses that is designed to enable the student to develop those skills that are necessary to perform in the capacity of an entry-level radiographer upon completion of this program. This course serves as an introduction to the medical-imaging career and department. CPR requirements are met this semester. Using the Competency-based Clinical Education model, students will have an opportunity to acquire competency in radiography of the thorax, abdomen and upper limb. Students are afforded 120 hours of experience to meet course objectives and requirements. Corequisites: RADT1101 Introduction to Radiography and Protection, RADT1105 Radiographic Procedures I, RADT1131 Principles of Radiographic Exposure I and RADT1150 Fundamentals of Patient Care.

RADT1120
1 Credit

Clinical Practicum II

The second course in a series of eight clinical-education courses and a continuation of RADT1110 Clinical Practicum I. This course

will enable students to continue to develop professional and technical skills. Using the Competency-based Clinical Education model, students will have the opportunity to acquire competency in all previously covered imaging studies. Students are required to complete objectives in mobile, surgical, venipuncture and vital signs. Students are afforded 112 hours of experience to meet course objectives and requirements. Prerequisite: RADT1110 Clinical Practicum I.

RADT1130
2 Credits

Clinical Practicum III

The third course in a series of eight clinical-education courses designed to enable progression in the development of entry-level skills as a radiographer. There will be an introduction to contrast media and urographic procedures. Using the Competency-based Clinical Education model, students have the opportunity to acquire competency in all areas previously covered, lower limb radiography and the femora, pelvis and spine. Students are afforded 240 hours of experience to meet course objectives and requirements. Prerequisite: RADT1120 Clinical Practicum II. Corequisites: RADT1135 Radiographic Procedures II and RADT2251 Advanced Principles of Radiographic Exposure.

RADT1131

3 Credits

Principles of Radiographic Exposure I

This course introduces the student to those principles related to image production and evaluation, as it relates to materials used and physical processes. Topics of this course include film, cassettes, grids, intensifying screens, imaging plates, processing chemistry, radiographic film processing and artifact formation. Students will study the multitude of factors that impact image creation. Corequisites: RADT1101 Introduction to Radiography and Protection, RADT1105 Radiographic Procedures I, RADT1110 Clinical Practicum I and RADT1150 Fundamentals of Patient Care.

RADT1135

4 Credits

Radiographic Procedures II

This is the second course in a series of four positioning/procedures designed to introduce the student to basic anatomy, physiology, terminology and imaging procedures of the lower limb and the spinal column. In addition, students will be introduced to basic studies that involve the use of opaque contrast agents. Acceptable practices and principles that are introduced in the lecture are reinforced in structured laboratory and clinical practice. Prerequisite: RADT1105 Radiographic Procedures I. Corequisites: RADT1130 Clinical Practicum III and RADT2251 Advanced Principles of Radiographic Exposure.

RADT1140

4 Credits

Clinical Practicum IV

The fourth course in a series of eight clinical-education courses that is designed to enable a continued progression toward the development of entry-level skills as a radiographer. Using the Competency-based Clinical Education model, students will have an opportunity to acquire competency in those areas previously covered in RADT1105 Radiographic Procedures I and RADT1135 Radiographic Procedures II in addition to contrast-media studies. Students are afforded 560 hours of experience to meet course objectives, requirements and quality-assurance objectives. Prerequisite: RADT1130 Clinical Practicum III.

RADT1150

3 Credits

Fundamentals of Patient Care

This course introduces the student to the skills needed for the management and care of all patient populations while in the clinical environment. Topics of this course include: communication, pharmacology, infection control, sterile technique, isolation, body mechanics, vital signs, venipuncture, contrast-media administration and management of emergency situations. Corequisites: RADT1101 Introduction to Radiography and Protection, RADT1105 Radiographic Procedures I, RADT1110 Clinical Practicum I and RADT1131 Principles of Radiographic Exposure I.

RADT2250

2 Credits

Clinical Practicum V

The fifth course in a series of eight clinical-education courses designed to prepare the student radiographer for entry-level skills development. During this phase in the education process, students will perfect all clinical skills acquired over the course of one year. Using the Competency-based Clinical Education model, students may acquire competency in all previously covered areas, in addition to advanced contrast-media examinations, skull radiography and geriatric and pediatric populations. Students are afforded 240 hours of experience to meet course objectives and requirements. Prerequisite: RADT1140 Clinical Practicum IV. Corequisites: PHYS1114 Physics for Radiography, RADT2252 Radiation Biology and Safety and RADT2255 Radiographic Procedures III.

RADT2251

3 Credits

Advanced Principles of Radiographic Exposure

The focus of this course is the photographic and geometric creation of a radiographic image. The content of this course includes density, contrast, recorded detail and distortion. Mathematical manipulations, technical compensations and application of theory as it relates to clinical prac-

Reading • Religion

University College: Arts • Sciences • Professional Studies
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tice will be explored. Prerequisite: RADT1131 Principles of Radiographic Exposure I. Corequisites: RADT1130 Clinical Practicum III and RADT1135 Radiographic Procedures II.

RADT2252 2 Credits

Radiation Biology and Safety

The primary focus of this course is to orient students about effects produced by ionizing radiation in living cells and matter. Cell survival, genetic effects, somatic effects and radiation syndromes are discussed in detail. Correlation of such effects is made to radiation safety practices and protection standards that are stipulated at the state and national levels. Prerequisite: RADT1101 Introduction to Radiography and Protection. Corequisites: PHYS1114 Physics for Radiography, RADT2250 Clinical Practicum V and RADT2255 Radiographic Procedures III.

RADT2254 2 Credits

Radiographic Imaging Equipment and Quality Management

This course is a study of diagnostic-imaging equipment and quality-control practices. Topics of this course include: diagnostic circuitry, imaging tubes, image intensification, body-section radiography, mobile units and automatic exposure control. Students will perform calculations and modules related to the previously indicated content. Prerequisite: PHYS1114 Physics for Radiography. Corequisites: RADT2270 Clinical Practicum VII, RADT2271 Radiographic Pathology and RADT2275 Radiographic Procedures IV.

RADT2255 4 Credits

Radiographic Procedures III

This is the third course in a series of four imaging procedures-related courses that is designed to introduce students to complex imaging procedures of the skull, facial and para-nasal sinuses. There will be an intensive reinforcement of anatomy, physiology and terminology as it relates to the content covered in this course. Acceptable practices and principles that are introduced in this course are reinforced in structured laboratory and clinical practice. Prerequisite: RADT1135 Radiographic Procedures II. Corequisites: PHYS1114 Physics for Radiography, RADT2250 Clinical Practicum V and RADT2252 Radiation Biology and Safety.

RADT2270 2 Credits

Clinical Practicum VII

The seventh course in a series of eight clinical-education courses that are designed to develop entry-level skills that are needed to enter the profession. Using the Competency-based Clinical Education model, students may acquire competency in all previously covered studies, in

addition to cases such as “grams.” Students are afforded 240 hours of experience to meet course objectives and requirements. Corequisites: RADT2254 Radiographic Imaging Equipment and Quality Management, RADT2271 Radiographic Pathology and RADT2275 Radiographic Procedures IV.

RADT2271 2 Credits

Radiographic Pathology

The emphasis of this course is the identification of pathologic diseases and conditions that require procedural modification and/or technical compensation that have an effect on patient care and the outcome of radiographic quality. Corequisites: RADT2254 Radiographic Imaging Equipment and Quality Management, RADT2270 Clinical Practicum VII and RADT2275 Radiographic Procedures IV.

RADT2275 4 Credits

Radiographic Procedures IV

This is the last course in a series of four radiographic procedures-related courses that focuses on complex imaging studies, modalities and therapy. In addition, students will have an opportunity to experience relevant radiography computer programs as part of the final laboratory experience. Prerequisite: RADT2255 Radiographic Procedures III. Corequisites: RADT2254 Radiographic Imaging Equipment and Quality Management, RADT2270 Clinical Practicum VII and RADT2271 Radiographic Pathology.

RADT2280 4 Credits

Clinical Practicum VIII

The last course in a series of eight clinical-education courses designed to prepare graduates for entry into the field of medical imaging. During the final phase of their education, students are expected to master all technical and clinical skills. Using the Competency-based Clinical Education model, students must complete all mandatory, elective, continual and terminal competency evaluations to meet the program's graduation requirements. Students will complete all sub-specialty imaging objectives. Students are afforded 560 hours of experience to meet course objectives and requirements. Prerequisite: RADT2270 Clinical Practicum VII.

RADT4002 3 Credits

Advanced Radiological Science I

This course will provide the student with an overview of physics, cross-sectional anatomy, positioning, instrumentation and nursing care involved in magnetic resonance imaging. It will focus on the use of computed tomography for

imaging the head, neck, abdomen, pelvis and extremities. Some attention will be devoted to physics, nursing care, contrast administration and cross-sectional anatomy.

RADT4003 3 Credits

Advanced Radiological Science II

This course will provide the technologist with the knowledge of quality management applications and data analysis. Emphasis will be on radiographic and mammographic quality control, collection of data and instrumentation. This course of study focuses on mammography (breast imaging), emphasizing routine and special projections of the breast. Imaging equipment and Mammography Quality Standards Act (MQSA) also will be addressed. Prerequisite: RADT4002 Advanced Radiological Science I.

Reading

Academic Advising and Student Support Services Office

Developmental Reading

Remediation is required for students whose screening test scores indicate they lack reading proficiency. Students requiring remediation must take READ0097 Fundamentals of College Reading I as indicated by the Academic Resource Center. This course carries no credit toward graduation.

READ0097 0 Credits

Fundamentals of College Reading I

Precollege reading. Emphasis on textbook-reading skills, such as surveying, outlining, summarizing, basic reading skills and close-reading techniques.

Religion

School of the Humanities

RELI1105 3 Credits

World Religions in America

This course is an exploration of the changing multi-religious landscape of the United States, looking at the history and dynamic interaction of the various religious traditions that now compose the American religious scene, with special emphasis on the religious life of Buddhists, Hindus, Sikhs, Jains and Muslims. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to PHIL1105 World Religions in America.)

Sociology

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RELI2107

3 Credits

One God, Three Paths

The course will trace the historical development of the three great Western monotheistic faiths, Judaism, Christianity and Islam. What makes this course unique is that it is team taught by a rabbi, a priest and an imam, all of whom will share their insights into their faith traditions with the students and with each other. The course also aims to give participants a workshop in a global learning experience that will lead the students not only to greater knowledge, but also to an appreciation for, and commitment to religious diversity in the world. Prerequisite: ENWR1002 Composition II: Research and Argument.

RELI2207

3 Credits

Philosophy of Religion

God's existence and attributes, problem of evil, religious truth, religious views of history, myth and language systems, meaning in religion. (Equivalent to PHIL2207 Philosophy of Religion.)

RELI2255

3 Credits

Person, Gender and Sexuality: Judaism, Christianity and Islam

This course, an interfaith endeavor taught by professors from the Jewish, Christian and Muslim traditions, will trace the historical development of the meaning and value of person, gender and sexuality in these traditions. Emphasis will be placed on understanding the cultural, historical and theological basis of these terms; the convergences of the meanings of these terms in the three traditions; and the contemporary applicability of these concepts from a global perspective. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN2255 Person, Gender and Sexuality: Judaism, Christianity and Islam.)

RELI2273

3 Credits

The Battle Over the Book

This course will introduce students to the various interpretative patterns used by the People of the Book over the ages. Specifically, the course will examine the historical patterns of interpreting the sacred texts of Judaism, Christianity and Islam. It will emphasize the rich diversity in interpretations, as well as the unrelenting efforts to preserve fidelity to the traditions. Finally, the course will focus on helping students understand how these patterns had an impact on and continue to impact the state of affairs of the world. Prerequisite: ENWR1002 Composition II: Research and Argument.

RELI3316

3 Credits

Babylon the Great: Culture, Religion and Conflict in Iraq

This course is an introduction to the cultural and religious history of Iraq beginning in the fourth millennium BCE and continuing through the present day. Topics will include the invention of writing, the origin of cities, Mesopotamian law and religion, the Epic of Gilgamesh, the rise of Islam, cultural continuities in the Middle East and the legacy of the ancient Near East in western civilization. Students will engage in a variety of methodological approaches in the humanities as they learn of the rich cultural and religious heritage of Iraq and consider important questions about its future. *FDU NetID (formerly Webmail) account required.* Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3316 Babylon the Great: Culture, Religion and Conflict in Iraq.)

RELI3317

3 Credits

Ancient Egypt: Mummies/Myth/Magic

This course provides an introduction to the religion, history, society and culture of ancient Egypt, which was one of the most sophisticated and long-lived civilizations in world history. Special attention will be given to funerary literature and religion, cults, magic and ritual, religious art and architecture, the sacred writing system and the religion of daily life. (Equivalent to HUMN3317 Ancient Egypt: Mummies/Myth/Magic.)

RELI3321

3 Credits

The Book of Job and Its Interpreters

This course will examine the Biblical book of Job as a work of literature and religious thought and will develop the analysis historically in comparison with ancient near Eastern, classical, medieval and modern philosophical discussions and theological commentaries of the Joban tradition. In this class, students will wrestle with such themes as theodicy, piety, evil, suffering and the nature of the divine-human experience. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3321 The Book of Job and Its Interpreters.)

RELI3323

3 Credits

The Ethics of Jesus

A study of the ethical teachings of Jesus through an analysis of the Sermon on the Mount. The philosophy of Dietrich Bonhoeffer will assist in this study. Ethical case studies from business, health care and foreign and domestic policy will be introduced. Prerequisite: ENWR1002 Composition II: Research and Argument.

RELI3324

3 Credits

Islamic Religion — Past and Present

The course presents an overview of the Islamic religion, beginning with the Prophet Muhammad (the Meccan and Medinan periods), through the dynasties (Umayyad and Abassid) and the Ottoman empire to the modern period.

RELI3334

3 Credits

Religion and Politics

This course explores the controversial and sometimes bloody crossroads between politics and religion. Specific topics may include religion as a political construct and instrument of power in society, the role of biblical traditions in the development of church-state relations in the United States, prophetic rhetoric and liberation theologies as public modes of discourse for social justice, morality, ethics and the just-war debate and the development of a suitable political theology for contemporary society. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN3334 Religion and Politics.)

RELI4431

1–3 Credits

Selected Studies in Religion

Studies in an area of religious study. Prerequisite: ENWR1002 Composition II: Research and Argument.

RELI4439

3 Credits

Questioning Religion

Discussion of readings from atheists, skeptics, saints, scoffers, believers, doubters, scientists and theologians to explore issues of doubt and faith, reason and religion, for and against the major religious traditions and in people's own lives. Prerequisite: ENWR1002 Composition II: Research and Argument. (Equivalent to HUMN4439 Questioning Religion and PHIL4439 Questioning Religion.)

Sociology

School of Criminal Justice, Political Science and International Studies

NOTE: 1000-level courses may be counted toward the major.

SOCI1101

3 Credits

Introductory Sociology

A systematic introduction to basic sociological concepts (culture, norms, status, roles, groups, institutions), landmark studies and their applications for understanding our own and the world's cultures.

Spanish Language and Culture

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SOCI1113

3 Credits

Sports in Society

Analysis of sports as a sociological phenomenon. Categories of analysis include organizational, economic and political aspects of sports teams; social origins of sports participants; and sports in cross-cultural perspective.

SOCI2115

3 Credits

Introduction to Social Work

This course provides an introduction to the practice of community service work with individuals, families and groups. Together with the ethical principles of social service work, it also explores the dynamics of social policy development.

SOCI2805

3 Credits

Contemporary Social Issues

A survey and analysis of major current issues in America and international societies and cultures, including such topics as poverty, social justice, culture change and the global economy.

SOCI3201

3 Credits

Methods in Social Research

Concepts, methods and applications of research that form the scientific foundation of our understanding of society, including qualitative studies (ethnography, participant observation, conversational interviews) and quantitative studies (sample surveys), along with techniques for interviewing and applications of theory to practice. Prerequisite: SOCI1101 Introductory Sociology.

SOCI3316

3 Credits

The Family: Stability and Dysfunction

Family as the central social institution in America and across the world is studied in relation to the economic, political and religious forces of which it is a part. The course also analyzes changes in family structure and ideals, roles within the family, emergent family forms, patterns of fertility in and out of marriage and divorce and remarriage patterns historically and currently.

SOCI3318

3 Credits

Health and Society: Access and Issues

Health care as a social institution; cultural views of health and illness; connections between wellness and social class; cultural assumptions in medical research and treatment; the training of doctors, nurses and other healers across cultures; challenges to the medical establishment through the consumer advocacy movement; patients' rights groups and the internet; the modern interplay of various cultural healing sys-

tems including allopathic, homeopathic, ayurvedic and holistic.

SOCI3520

3 Credits

Race, Generation and Immigration

The course focuses on factors affecting Asians, blacks and Latinos in the United States; their parallel experiences of Americanization; changing experiences of race as a function of successive generations living in the U.S.; and the bicultural gap between family and "American" culture.

SOCI3415

3 Credits

Internship in Social Work

Students work in a specific community-service setting, using and applying what they have learned in their social work courses to gather and refine skills in working to help people with their needs and problems. Prerequisites: SOCI3316 The Family: Stability and Dysfunction and SOCI3318 Health and Society: Access and Issues.

Criminal Justice and Legal Studies

With pre-approval, select courses in criminal justice and legal studies may serve to fulfill sociology-recommended electives. See pages 435–440.

Spanish Language and Culture

School of the Humanities

SPAN1101

3 Credits

Elementary Spanish I

Essentials of Spanish grammar. Easy reading selections leading to extensive conversation and writing.

SPAN1102

3 Credits

Elementary Spanish II

A continuation of the essentials of Spanish grammar. Easy reading selections leading to extensive conversation and writing. Prerequisite: SPAN1101 Elementary Spanish I or equivalent.

SPAN1111

3 Credits

Spanish for Health Personnel

Primarily for students in the nursing program, stressing the acquisition of basic communication skills in the fields of health and medicine. Basic grammatical structures studied within the context of the health professions.

SPAN2103

3 Credits

Intermediate Spanish I

Review of grammar with intermediate-level readings. Prerequisite: SPAN1102 Elementary Spanish II or equivalent.

SPAN2104

3 Credits

Intermediate Spanish II

A continuation of the review of grammar with intermediate-level readings. Prerequisite: SPAN2103 Intermediate Spanish I or equivalent.

SPAN3301

3 Credits

Advanced Conversation in Spanish

Discussion of contemporary topics in Spanish.

SPAN3304

3 Credits

Spanish for Careers

Practical vocabulary needed in such fields as airlines, business, computers, education, health care and social work. Conducted in Spanish. Prerequisite: SPAN2104 Intermediate Spanish II or equivalent.

SPAN3435

3 Credits

The Modern Spanish-American Short Story

This course introduces the students to a variety of short stories from Mexico, the Caribbean and Central and South America. The genre will be explored in its literary, historical and cultural contexts. Prerequisite: SPAN2104 Intermediate Spanish II or SPAN3301 Advanced Conversation in Spanish.

SPAN3439

3 Credits

Latin-American Culture and Civilization

An overview of the history and cultures of pre-Columbian times to present-day Latin America. Students are introduced to various modes of cultural productions and social and political structures that have shaped modern Latin America. Prerequisite: SPAN2104 Intermediate Spanish II.

SPAN3440

3 Credits

Latin-American Short Stories: Fantasy and Mystery

Stories with elements of fantasy and/or mystery will be read, including detective stories and science fiction. Some will be by well-known authors such as Jorge Luis Borges and Gabriel Garcia Marquez. The class will be conducted in Spanish. Prerequisite: SPAN2104 Intermediate Spanish II or equivalent.

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SPAN3454

3 Credits

Introduction to Latin-American Literature

This course offers a panoramic view of Spanish-American literature from the 16th century to the most recent production, with emphasis on 20th-century writers and their search for new modes of expression to reflect the social, historical and political events that have shaped the region's destiny.

SPAN3455

3 Credits

Introduction to Spanish Literature

This course provides an overview of Spanish literature from medieval times to the present. Students will read representative samples of novels, short stories, poems, essays and plays. Prerequisite: SPAN2104 Intermediate Spanish II or SPAN3301 Advanced Conversation in Spanish.

SPAN3456

3 Credits

Spanish Culture and Civilization

This course is a panoramic survey of the historical, geographical and various artistic expressions of Spanish civilization. An eclectic array of sources from history, art, architecture, film, music and literature are utilized to explore the main events that have shaped the character of modern peninsular culture. Prerequisite: SPAN2104 Intermediate Spanish II.

SPAN3457

3 Credits

Introduction to Latin-American Literature

This course offers a panoramic view of Spanish-American literature from the 16th century to most recent productions. Special emphasis is placed on 20th-century writers and their search for new modes of expression that reflect the social, historical and political events that have shaped the region's destiny. Prerequisite: SPAN2103 Intermediate Spanish I or SPAN2104 Intermediate Spanish II.

SPAN4235

3 Credits

Latin-American Media and Film

This course provides a comprehensive and critical overview of some of the most important media systems in Latin America. A selection of films from Mexico, Argentina, Cuba and other Latin-American countries will be studied in their social, political and cultural contexts. Conducted in Spanish. Prerequisite: SPAN2104 Intermediate Spanish II or equivalent.

SPAN4259

3 Credits

Spanish Linguistics

The study of the Spanish language including history, structure and sounds. Comparative linguistics of French, Italian, Portuguese, Romanian and Spanish and their relationship to Latin.

tics of French, Italian, Portuguese, Romanian and Spanish and their relationship to Latin.

SPAN4437

3 Credits

Advanced Composition in Spanish

Study in writing Spanish, aimed at fluency and ease of expression. Conducted in Spanish. Prerequisite: SPAN2104 Intermediate Spanish II.

SPAN4440

3 Credits

The Hispanic Novel: From Cervantes to García Márquez

This course offers a sampling of novels from representative writers of Spain and Latin America. Important literary periods and movements will be studied in their respective contexts — from Spain's Golden Age period to the literary boom in Latin America of the 1960s. Prerequisite: SPAN3301 Advanced Conversation in Spanish or SPAN4437 Advanced Composition in Spanish.

SPAN4800

1–3 Credits Each Semester

Independent Study in Spanish Language and Literature

Independent study under the direction of a specific faculty member after consultation with the school director.

SPAN4875

Variable Credits

Honors Spanish

Independent study in Spanish for students in the University Honors Program under the direction of a specific faculty member with approval of the school director. Prerequisite: admission to the University Honors Program.

Speech

School of Art and Media Studies

SPCH1105

3 Credits

Voice Production and Articulation

A basic course in voice and articulation including practice in enunciation, production of voice tone and the sounds of standard English speech. Basic concepts of anatomy and physiology of speech mechanism.

SPCH1155

3 Credits

Public Speaking

Training in the organization of ideas and effective delivery through practice in speaking before an audience.

SPCH2153

3 Credits

Speech and Voice Improvement

Practice in improvement of voice and articulation through the study of phonetics and standard American English.

SPCH2217

3 Credits

Speech for Broadcasters

Voice training for students interested in pursuing a career in broadcasting or acting, including exercises in acquiring the right speaking rate for delivering the news and selecting audition material such as film and stage monologues. (Equivalent to THEA2217 Speech for Actors.)

SPCH2318

3 Credits

Oral Presentations

A skills-oriented course providing students with practical experience in incorporating multimedia into oral presentations within a professional setting.

SPCH2351

3 Credits

Persuasive Speaking

Theory of argumentation and debate and practice in preparation and delivery of different types of persuasive speeches.

SPCH2353

3 Credits

Speech: Small-group Discussion

Dynamics of successful small-group communications. Roles of leaders and participants explored in theory and practice.

SPCH4430

Variable Credits

Selected Studies in Speech (Sportscasting)

Studies in an area of speech.

SPCH4800

Variable Credits

Independent Study in Speech

Independent study under the direction of a specific faculty member after consultation with the school director.

Theater

School of Art and Media Studies

THEA1103

3 Credits

Introduction to Theater

Theater as an art form, emphasizing playwrights, actors, directors, designers, technicians, dramatic forms and performing spaces. Off-campus play-going required. Recommended for majors.

THEA1104**3 Credits****History and Development of the Theater I**

Development and history of theater from its origins to the beginning of the English Renaissance.

THEA1105**3 Credits****History and Development of the Theater II**

Development and history of theater from the English Renaissance to Ibsen. Prerequisite: THEA1104 History and Development of the Theater I or permission of instructor.

THEA1106**3 Credits****Playgoing and Analysis**

Theater attendance and classroom criticism of professional productions. Backstage discussions. Cost for theater tickets additional. Students responsible for their own transportation.

THEA2205**3 Credits****Acting: Theory and Practice I**

Basic theories and techniques of acting through scene and character analysis, body and voice training, improvisation and performance.

THEA2206**3 Credits****Acting: Theory and Practice II**

Further study in basic theory and practice. Prerequisite: THEA2205 Acting: Theory and Practice I or department permission.

THEA2210**3 Credits****Directing: Theory and Practice II**

Advanced course in directing techniques. Students will direct or co-direct a complete production. Prerequisite: THEA2219 Directing: Theory and Practice I or department permission.

THEA2211**3 Credits****Stagecraft**

Survey and practicum in the techniques required to mount a theatrical production. Students required to participate in campus productions.

THEA2217**3 Credits****Speech for Actors**

Voice training for students interested in pursuing a career in broadcasting or acting, including exercises in acquiring the right speaking rate for delivering the news and selecting audition material such as film and stage monologues. (Equivalent to SPCH2217 Speech for Broadcasters.)

THEA2218**1 Credit****Technical Theater Production I**

Experience in creating scenery, lighting, sound and special effects for theater productions. Not suitable for fine arts core.

THEA2219**3 Credits****Directing: Theory and Practice I**

Basic theory and techniques of directing, organization, staging and interpretation. Students required to direct and perform at least two scenes per semester.

THEA3305**3 Credits****Advanced Acting I**

Essential techniques stressing truthful human behavior on stage. Concentration on basic acting exercises.

THEA3306**3 Credits****Advanced Acting II**

Continuation of THEA3305 Advanced Acting I. In-depth scene study. Prerequisite: THEA3305 Advanced Acting I or permission of instructor.

THEA3309**3 Credits****Advanced Directing I**

For those seriously interested in developing in depth as directors. One-act play to be staged. Prerequisite: THEA2210 Directing: Theory and Practice II or permission of instructor.

THEA3310**3 Credits****Advanced Directing II**

Staging an original one-act play or preliminary work on staging a full-length play. Prerequisite: THEA3309 Advanced Directing I or permission of instructor.

THEA4432**1–3 Credits Each Semester****Selected Studies in Theater**

Studies in an area of theater. The course may be repeated but students may not repeat the topic.

THEA4800**1–3 Credits Each Semester****Independent Study in Theater**

Independent study under the direction of a specific faculty member after consultation with the school director.

Fall, Spring, Summer