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.

Arabic
School of 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.

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).

Art
School of Art and Media Studies

ART1101
3 Credits
Art History and Lecture

ART1102
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.)

ART1103
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.
### Course Descriptions

#### Art

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART1155</td>
<td>3</td>
<td>Cinema I: The Director's Vision</td>
<td>Cinema theory, technique, technology and style. Weekly screenings of important films. May be repeated, but student may not repeat topic.</td>
</tr>
<tr>
<td>ART1156</td>
<td>3</td>
<td>Cinema II: Themes in Films</td>
<td>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.</td>
</tr>
<tr>
<td>ART1157</td>
<td>3</td>
<td>History of Fashion Design</td>
<td>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.</td>
</tr>
<tr>
<td>ART2137</td>
<td>3</td>
<td>Global Roots of American Architecture</td>
<td>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.</td>
</tr>
<tr>
<td>ART2238</td>
<td>3</td>
<td>The Global Art World</td>
<td>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.</td>
</tr>
</tbody>
</table>

#### Art Studios

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART1141</td>
<td>3</td>
<td>Two-dimensional Design</td>
<td>Basic elements and principles of two-dimensional design and composition. (Freshman art major foundation.)</td>
</tr>
<tr>
<td>ART1142</td>
<td>3</td>
<td>Three-dimensional Design</td>
<td>Basic elements and principles of three-dimensional design and composition. (Freshman art major foundation.) Prerequisite: ART1141 Two-dimensional Design.</td>
</tr>
<tr>
<td>ART1144</td>
<td>3</td>
<td>Color Theory I</td>
<td>The physical and psychological properties of color and the application of these phenomena in the creative arts.</td>
</tr>
<tr>
<td>ART1147</td>
<td>2</td>
<td>Introduction to Studio Arts I</td>
<td>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.)</td>
</tr>
<tr>
<td>ART1151</td>
<td>3</td>
<td>General Drawing I</td>
<td>Basic techniques and concepts in creative drawing from observation and imagination. (Freshman art major foundation.)</td>
</tr>
<tr>
<td>ART1153</td>
<td>3</td>
<td>Life Drawing I</td>
<td>Basic concepts and techniques of drawing the human form through observation of live models. (Freshman art major foundation.)</td>
</tr>
<tr>
<td>ART1157</td>
<td>3</td>
<td>Printmaking I</td>
<td>Basic printmaking techniques and their aesthetic possibilities. Monoprints, linocuts and woodblocks.</td>
</tr>
<tr>
<td>ART1158</td>
<td>3</td>
<td>Silk-screen Printing I</td>
<td>Serigraphy: The artistic use of silk-screen method of printing. Basic techniques of single and multicolored printing.</td>
</tr>
<tr>
<td>ART1159</td>
<td>3</td>
<td>Monotype Printmaking</td>
<td>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.</td>
</tr>
<tr>
<td>ART1161</td>
<td>3</td>
<td>Painting I</td>
<td>Painting in acrylic or oil media. Problems of form, expression and technique.</td>
</tr>
<tr>
<td>ART1167</td>
<td>3</td>
<td>Collage and Mixed Media</td>
<td>Constructing works of art from paper and castoff materials, including three-dimensional objects and boxes in assemblage.</td>
</tr>
<tr>
<td>ART1170</td>
<td>3</td>
<td>Advertising Design</td>
<td>Principles of design applied to commercial layouts. (Equivalent to COMM1170 Advertising Design.)</td>
</tr>
<tr>
<td>ART1172</td>
<td>3</td>
<td>Designing with Color</td>
<td>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.</td>
</tr>
<tr>
<td>ART1174</td>
<td>3</td>
<td>Desktop Publishing I</td>
<td>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.)</td>
</tr>
<tr>
<td>ART1177</td>
<td>3</td>
<td>Introduction to Digital Media</td>
<td>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.)</td>
</tr>
<tr>
<td>ART1178</td>
<td>3</td>
<td>Multimedia on the Internet</td>
<td>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.</td>
</tr>
</tbody>
</table>
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.

ART1187
3 Credits
**Ceramics I**
Clay structure; methods of coil, slab and wheel construction, firing and glazing.

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, non-linear 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.

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.
ART2277
3 Credits
Illustration
Book, magazine, editorial, advertising and humorous illustration. Prerequisite: ART1151 General Drawing I, ART1155 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.

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.

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.

ART2673
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.

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.

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.)

ART4430–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.
Course Descriptions

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

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: BIOL111 Laboratory: Principles of Modern Biology.
Fall, Spring

BIOL1011
0 Credits
Laboratory 2 hours
Laboratory: Principles of Modern Biology

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.

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

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.

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.

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, articularizations, 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 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 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 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
Course Descriptions

Biological Sciences

University College: Arts • Sciences • Professional Studies

Metropolitan Campus and Vancouver Campus

BIOI.1254
1 Credit
Laboratory 3 hours

Laboratory: General Biology II
Experiments illustrating the topics discussed in BIOI.1252 General Biology II. Corequisite: BIOI.1252 General Biology II.

Courses for Majors

BIOI.2120
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: BIOI.2121 Lab: Introduction to Aquaculture and Hydroponics.

BIOI.2121
0 Credits
Laboratory 2 hours

Lab: Introduction to Aquaculture and Hydroponics
Experiments illustrating the topics discussed in BIOI.2120 Introduction to Aquaculture and Hydroponics. Corequisite: BIOI.2120 Introduction to Aquaculture and Hydroponics.

BIOI.2150
0 Credits
Laboratory 4 hours

Laboratory: Ecology and Field Biology
Fieldwork illustrating the topics discussed in BIOI.2250 Ecology and Field Biology. Corequisite: BIOI.2250 Ecology and Field Biology.

BIOI.2210
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: BIOI.1251 General Biology I; BIOI.1252 General Biology II; BIOI.2153 Laboratory: General Biology II; BIOI.1254 General Biology Laboratory: General Biology I; CHEMI.1201, CHEMI.1203 General Chemistry I; CHEMI.2102, CHEMI.2104 General Chemistry II. Corequisite: BIOI.2211 Laboratory: Genetics.

BIOI.2211
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: BIOI.1251 General Biology I; BIOI.1252 General Biology II; BIOI.1253 Laboratory: General Biology I; BIOI.1254 Laboratory: General Biology I, CHEMI.1201, CHEMI.1203 General Chemistry, and CHEMI.2102, CHEMI.1204 General Chemistry II. Corequisite: BIOI.2210 Genetics.

BIOI.2257, BIOI.2259
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: BIOI.1251 General Biology I and BIOI.1253 Laboratory: General Biology I.

Fall, Spring

BIOI.2250
4 Credits
Lecture 2 hours

Ecology and Field Biology

Fall, Spring

BIOI.2500
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 interpretation of experimental variables, graphical representations, statistical techniques, data interpretation and research theses. Prerequisites: BIOI.1251 General Biology I; BIOI.1252 General Biology II, BIOI.1253 Laboratory: General Biology I and BIOI.1254 Laboratory: General Biology II.

BIOI.3225
4 Credits
Lecture 2 hours

General Microbiology
Introduction to microorganisms’ structure, biochemistry, genetics and physiology and their interactions with animals and other organisms. Prerequisites: BIOI.1251 General Biology I, BIOI.1252 General Biology II, BIOI.1253 Laboratory: General Biology I, BIOI.1254 Laboratory: General Biology II.

BIOI.2211, BIOI.2257
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: BIOI.1251 General Biology I; BIOI.1252 General Biology II; BIOI.1253 Laboratory: General Biology I; BIOI.1254 Laboratory: General Biology I, CHEMI.1201, CHEMI.1203 General Chemistry, and CHEMI.2102, CHEMI.2104 General Chemistry II. Corequisite: BIOI.2210 Genetics.

BIOI.3226
0 Credits
Laboratory 4 hours

Laboratory: General Microbiology

BIOI.3345
3 Credits
Lecture 3 hours

Molecular Genetics

Fall, Spring

BIOI.3357
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: BIOI.1251, BIOI.1252 General Biology I; BIOI.1253 General Biology II; BIOI.1254 General Biology II; and BIOI.2237, BIOI.2239 Human Structure and Function I. Corequisite: BIOI.3358 Laboratory: Human Structure and Function II.

Fall, Spring
BIO L358
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: BIO L1251, BIO L1253 General Biology I and BIO L1252, BIO L1254 General Biology II. Corequisite: BIO L3557 Human Structure and Function II.

Spring

BIO L3417
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.

BIO L4000
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.

BIO L4220
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: BIO L1251 General Biology I, BIO L1252 General Biology II, BIO L1253 Laboratory: General Biology I, BIO L1254 Laboratory: General Biology II. Corequisite: BIO L4221 Laboratory: Histology.

BIO L4241
0 Credits
Laboratory 4 hours

Laboratory: Histology
Microscopic analysis of the structure of normal human and animal tissues as related to their functions. Prerequisites: BIO L1251 General Biology I, BIO L1252 General Biology II, BIO L1253 Laboratory: General Biology I, BIO L1254 Laboratory: General Biology II. Corequisite: BIO L4240 Laboratory: General Biology II.

Fee

BIO L4240
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: BIO L1251 General Biology I, BIO L1252 General Biology II, BIO L1253 Laboratory: General Biology I, BIO L1254 Laboratory: General Biology II. Corequisite: BIO L4241 Laboratory: Molecular Cell Biology.

Fee

BIO L4241
0 Credits
Laboratory 4 hours

Laboratory: Molecular Cell Biology
Experiments illustrating the topics discussed in BIO L4240 Molecular Cell Biology. Prerequisites: BIO L1251 General Biology I, BIO L1252 General Biology II, BIO L1253 Laboratory: General Biology I, BIO L1254 Laboratory: General Biology II. Corequisite: BIO L4240 Molecular Cell Biology.

Fee

BIO L4235
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: BIO L1251 General Biology I and BIO L1253 Laboratory: General Biology I. Corequisite: BIO L4236 Laboratory: Developmental Biology.

Fee

BIO L4234
0 Credits
Laboratory 4 hours

Laboratory: Developmental Biology
Experiments illustrating the topics discussed in BIO L4235 Developmental Biology.

Fee

BIO L4405
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: BIO L1251 General Biology I, BIO L1252 General Biology II, BIO L1253 Laboratory: General Biology I and BIO L1254 Laboratory: General Biology II.

BIO L4414
1 Credit
Laboratory 4 hours

Laboratory: Animal Behavior

Fee

BIO L4420
3 Credits
Lecture 3 hours

Evolution
Evolutionary biology at all levels of organization (molecular to societal). Established principles of evolution, why and how, and the evolutionary reasoning follows from the scientific method. Prerequisites: BIO L220, BIO L221 Genetics and MATH 1201 Calculus I.

BIO L4432
3 Credits

Selected Studies in Biology
Recent developments in special fields of biology.

BIO L4476, BIO L4875
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.

BIO L4800
1–3 Credits

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

Chemistry

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

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
Molecular Biology Techniques
Lecture 3 hours
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
Lab: Molecular Biology Techniques
Lecture 3 hours
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.

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.

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.

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
5 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.

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

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: CHEM221 Organic Chemistry I and CHEM2203 General Chemistry Laboratory I.

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: CHEM2202, CHEM2204 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,
II, which illustrates important principles of structure and reactivity, synthesis and analysis of organic compounds. Corequisites: CHEM2261, CHEM2262 Organic Chemistry I, II.

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.

Biochemistry II
Study of metabolism, storage and expression of genetic information and other current aspects of Biochemistry. Prerequisite: CHEM2261, CHEM2262, CHEM2264 Organic Chemistry II and MATH2202 Calculus II, Corequisite: CHEM3243 Physical Chemistry Laboratory I.

CHEM3243
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. Fee.

CHEM4254
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. Fee.

CHEM430
Selected Studies in Chemistry
Recent developments in special fields of chemistry. Fee.

CHEM4400
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
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.

CHIN101
Elementary Chinese I
Selections that encourage conversation, reading and writing.

CHIN102
Elementary Chinese II
Continuation of CHIN101 Elementary Chinese I. Prerequisite: CHIN1101 Elementary Chinese I or equivalent.

Civil Engineering

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

CENG1205
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, superellipse on curves, computer applications to surveying and electronic measurements will be studied. Prerequisite: MATH1107 Precalculus or equivalent.
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 AISI (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, subcontracting, contracts 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 AISI (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

CENG4321
3 Credits
Bridge Design

CENG4385
3 Credits
Senior Design Project
Students work on capstone design projects using the knowledge gained through past coursework, following professional practice, applying
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 multimedia 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 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.

COMM2105
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.
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 art for editorial and advertising in print media. Student projects are modeled after real-world commercial assignments.

COMM2272
3 Credits
Layout and Typography

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.
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, communication 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.

COMM324
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.

COMM3452
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: COMM2673 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: COMM2673 Basic Video Production. Fee

COMM3749
3 Credits
Advanced Video Editing
A project-oriented, hands-on course that emphasizes enhanced editing techniques, procedures and theory with the AVID digital
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 analysts. 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.

Computer Science

Lee Gildart and Oswald Haase
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, MDI 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
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 CSCI11201 Computer Programming I or INFO2101 Computer Programming for Information Technologists I. (Equivalent to INFO2102 Computer Programming for Information Technologists II.) Fall, Spring

CSCI12215
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 area of computer networks, system organization and computer theory. Foundation for more advanced courses. Prerequisite: elementary knowledge of a programming language. Fall, Spring

CSCI12232
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 CSCI11202 Computer Programming II or INFO2102 Computer Programming for Information Technologists II. Fall, Spring

CSCI12235
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,
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
*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: CSCI2252 Data Structures.
*Spring*

CSCI3255 3 Credits
Mathematical Foundations of Computer Science

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; hash 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

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 issues. 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
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.

CSCI3340 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, OSPF, BGP, multicast, protocol tunneling and routing security. Prerequisite: CSCI3240 Computer Networks. FDU NetID (formerly Webmail) account required.

CSCI3342 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.

CSCI3345 3 Credits
Firewalls and Intrusion Detection Systems
This course covers the theoretical and practical aspects of firewalls and intrusion detection systems. Some aspects of firewalls and routers also will be covered. Prerequisites: CSCI3240 Computer Networks, CSCI3278 Operating Systems or permission of instructor.

CSCI3350 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.

CSCI3360 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.

CSCI3375 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.

CSCI3380 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.

CSCI3381 3 Credits
Compiler Theory

CSCI3385 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.

CSCI3391 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 EENG4342 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 EENG4342 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.
CSCI4340
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.

CSCI4030
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: CSCI3231 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.

---

**Criminal Justice and Legal Studies**

**School of Criminal Justice, Political Science and International Studies**

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.

CRIM1105
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
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 capitalist 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, participants 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
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.

CRIM 2214
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.

CRIM 2215
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, criministics, serology, DNA and questioned documents.

CRIM 2216
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.

CRIM 2218
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.

CRIM 2220
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 worldwide. Students will be exposed to arguments for and against the death penalty and be encouraged to critically assess their own feelings toward the ultimate sanction.

CRIM 2231
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.

CRIM 2235
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.

CRIM 2240
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.

CRIM 2250
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.

CRIM 2700
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.

CRIM 3301
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.

CRIM 3302
3 Credits
Criminal Justice Management and Administration
A comprehensive overview of the dynamics of effective supervision, management, administration and general human resource management
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.

CRIM 3303
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: CRIM 1101

CRIM 3304
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.

CRIM 3305
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.

CRIM 3306
3 Credits
**White-collar Crime**
This course will examine crimes committed by governments, corporations and individuals. Specific topics include embezzlement, fraud, extortion, bribery, 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.

CRIM 3307
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 psychological 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.

CRIM 3308
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.

CRIM 3309
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.

CRIM 3310
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.

CRIM 3311
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.

CRIM 3312
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.

CRIM 3313
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.

CRIM 3314
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.

CRIM 3315
3 Credits
**Advanced Internship**
Students successfully completing CRIM 3303 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
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 Wroxton 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, reducing 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
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 collecting 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: CRIM327 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 management, 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.

EDUC1453
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 instructional 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 curriculum, 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.

Spring
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.

EDUC4450
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.

EDUC4451
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.

EDUC4452
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

Lee Gildart and Oswald Haase
School of Computer Sciences and Engineering

EENG2221
4 Credits
Lecture/Laboratory 5 Hours
Signals and Systems I
Fall
Fee

EENG2222
3 Credits
Lecture/Laboratory 4 Hours
Signals and Systems II
Spring
Fee

EENG2227
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

EENG3223
3 Credits
Lecture/Laboratory 4 Hours
Linear Systems
Fall
Fee

EENG3224
3 Credits
Lecture/Laboratory 4 Hours
Digital Signal Processing
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: MATH3341 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 EGTE3267 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

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

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 multi-layer filters, Fresnel’s equations, optical properties of materials and Fourier optics. Prerequisite: EENG4321 Engineering Optics I.
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.

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.

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.

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: EENG4333 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: EENG3225 Linear Systems.

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.

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.

EENG4533
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.

EENG4544
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.

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.

EENG4556
3 Credits
**Knowledge Engineering II**
Principles of robot design, search methods, automated assembly operations, learning paradigms for automated environments. Prerequisites: EENG4534 Knowledge Engineering I.

EENG4362
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.

EENG4375
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.

EENG4376
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.

EENG4381
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.)

EENG4382
3 Credits
**Computer-aided Analysis and Design II**
Use of CAD software and modern programming languages in solving electrical engineering problems. Prerequisites: EENG4381 Computer-aided Analysis and Design I and completion of the sixth semester.
### Electrical Engineering

**University College: Arts • Sciences • Professional Studies**

Metropolitan Campus and Vancouver Campus

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EENG4385</td>
<td>3</td>
<td>Modern Manufacturing Systems</td>
<td>Basic engineering principles of analysis and design of industrial robotic manipulators, including configuration kinematics, motion kinematics status, dynamics and control.</td>
</tr>
<tr>
<td>EENG4392</td>
<td>3</td>
<td>Optical Communications</td>
<td>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.</td>
</tr>
<tr>
<td>EENG4394</td>
<td>3</td>
<td>Electronic Telecommunications</td>
<td>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: basic knowledge of data processing.</td>
</tr>
<tr>
<td>EENG4396</td>
<td>3</td>
<td>Telecommunications Applications</td>
<td>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.</td>
</tr>
<tr>
<td>EENG4421</td>
<td>3</td>
<td>Honors Externship in Electrical Engineering</td>
<td>A supervised industrial experience for selected students. Prerequisite: permission of the school director.</td>
</tr>
<tr>
<td>EENG4430</td>
<td>3</td>
<td>Special Topics in Electrical Engineering</td>
<td>A study of subjects of current interest in electrical engineering.</td>
</tr>
<tr>
<td>EENG4498, EENG4499</td>
<td>3</td>
<td>Co-op in Electrical Engineering</td>
<td>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.</td>
</tr>
<tr>
<td>EENG4800</td>
<td>1–3</td>
<td>Independent Study in Electrical Engineering</td>
<td>Independent study under the direction of a specific faculty member after consultation with the school director.</td>
</tr>
<tr>
<td>EENG4875</td>
<td>1–4</td>
<td>Honors in Electrical Engineering</td>
<td>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.</td>
</tr>
<tr>
<td>ENGR1204</td>
<td>3</td>
<td>Lecture/Laboratory 4 hours Programming Languages in Engineering</td>
<td>MATLAB programming applied to engineering problem solving. Integrated laboratory experience.</td>
</tr>
<tr>
<td>ENGR1223</td>
<td>2</td>
<td>Lecture/Laboratory 4 hours Introduction to CAD</td>
<td>Introduction to the practical use of computer hardware and software for drafting applications. Corequisite: MATH1107 Precalculus or equivalent.</td>
</tr>
<tr>
<td>ENGR2210</td>
<td>3</td>
<td>Technical Communications</td>
<td>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: EWR1001 Composition I: Rhetoric and Inquiry.</td>
</tr>
<tr>
<td>ENGR2221</td>
<td>3</td>
<td>Statics</td>
<td>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.</td>
</tr>
<tr>
<td>ENGR2228</td>
<td>3</td>
<td>Lecture/Laboratory 4 hours Strength of Materials</td>
<td>Shear, moments, stresses, bending, torsional shear, moment and shear diagrams, deflections, stress strain, bolted and welded joints, combined loading and column. Prerequisite: ENGR2221 Statics.</td>
</tr>
<tr>
<td>ENGR2286</td>
<td>3</td>
<td>Lecture/Laboratory 4 hours Digital System Design</td>
<td>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.)</td>
</tr>
<tr>
<td>ENGR3000</td>
<td>3</td>
<td>Lecture/Laboratory 4 hours Modern Technologies: Principles, Applications and Impacts</td>
<td>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.</td>
</tr>
</tbody>
</table>
ENGR3000
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.

ENGR3001
2 Credits
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.

ENGR3002
1 Credit
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.

ENGR4000
3 Credits
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.

ENGR4263
3 Credits
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.

ENGR4800
3 Credits
Independent Study in Engineering
Independent study of engineering topics or in an area of engineering.

ENGR4001
2 Credits
Fluid Mechanics
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
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.

ENGR3000
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.

ENGR3001
2 Credits
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.

ENGR3002
1 Credit
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.

ENGR4263
3 Credits
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.

ENGR4800
3 Credits
Independent Study in Engineering
Independent study of engineering topics or in an area of engineering.

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)
Course Descriptions

Engineering Technology

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

EGTC1225
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.
Fall, Spring

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: EGTC1225 Introduction to CAD, EGTC1245 Construction Materials and Systems and EGTG2228 Strength of Materials.
Fall

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 accordance 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.
Spring

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-use 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, journeyman training programs; Davis-Bacon Act, business agents, organization and jurisdiction of crafts; and work rules. Prerequisite: EGTG2210 Technical Communications.
Spring

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
Spring

EGTC4260
3 Credits
Contracts and Specifications
A study of codes and specifications required in engineering contracts. General contracts, subcontract 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
Fall

EGTC4266
3 Credits
Construction Practices II
Spring
Course Descriptions

Engineering Technology

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

EGTC4272
3 Credits
Lecture 2 hours; Laboratory 2 hours
Advanced Steel Design
Design of a complete structural steel frame building including beams, columns and connections; preparing design notes, structural drawings and shop drawings in accordance with codes, industry standards and AISC. LRFD 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

EGTC4321
3 Credits
Bridge Design

EGTC4322
3 Credits
Hydraulic Design

EGTC4325
3 Credits
Seismic Design

EGTC43484
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: EGTC4210 Soil Mechanics, EGTC4265 Project Management and Control I, EGTC2210 Technical Communications and eighth-semester standing.

EGTC43485
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 EGTC2210 Technical Communications.

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 MATH1202 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: EGTG2216 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.
Logic simulation. Logic families. Integrated laboratory experience. (Equivalent to ENGR2286 Digital System Design.)

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.

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.

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: EGTG2201 Applied Calculus I or MATH2201 Calculus II or permission of instructor.

EGTG4224
3 Credits
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 EGTG3223 Instrumentation (or permission of instructor).

EGTG4225
3 Credits
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).

EGTG4254
3 Credits
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.

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.)

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.

Selected Studies in Engineering Technology
Study of special topics of current interest in the area of engineering technology.

EGTG4422
1–3 Credits
Independent Study in 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.
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

EGTE2287
3 Credits
Lecture/Laboratory 4 hours

Microprocessor System Design I

Fall

EGTE3049
3 Credits
Lecture 2 hours; Laboratory 2 hours

Fiber Optics Technology

EGTE3051
3 Credits
Lecture 2 hours; Laboratory 2 hours

Laser Technology

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

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.

EGTE3349
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.

EGTE4049
3 Credits
Lecture 2 hours; Laboratory 2 hours

Optical Technology II

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: EGTE3051 Laser Technology.

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: EGTE4052 Optical Measurements and Test Equipment I.

EGTE4052
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.

EGTE4345
3 Credits
Lecture/Laboratory 4 hours

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.

EGTE4348
3 Credits
Lecture/Laboratory 4 hours

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

Mechanical Engineering Technology

EGTM2232
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.
Spring

EGTM2235
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.

Fall

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, EGTG3531 Dynamics and PHYS2102 General Physics II.
Fall

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

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, psychrometrics, fluid flow in piping and ducts and air-distribution devices, air conditioning systems and equipment, refrigeration systems and equipment. Prerequisite: EGTG3551 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 advisor.

EGTM4536
3 Credits

Stress and Vibration Analyses
Spring

EGTM4538
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.

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

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-
English Language and Literature

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

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 folktunes 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.

ENGL2257
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-
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 reconstituting 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.

ENGL3151
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.
ENGL3525
3 Credits
Creative Writing I (Fiction)
Workshop providing sustained practice in individual projects in fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3526
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.

ENGL3527
3 Credits
Creative Writing I (Poetry)
Workshop providing sustained practice in individual projects in poetry. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3528
3 Credits
Creative Writing II (Poetry)
A continuation of creative writing workshop providing sustained practice in individual projects in poetry. Prerequisite: ENGL3527 Creative Writing I (Poetry).

ENGL3529
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.

ENGL3533
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.

ENGL3534
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.

ENGL3535
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.

ENGL3536
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.

ENGL3537
3 Credits
Creative Writing I (Cross-genre)
A 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.

ENGL3538
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.

ENGL3539
3 Credits
Shakespeare II
Critical analysis of representative later plays. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3541
3 Credits
17th-century Literature
The major poetry and prose studied in relation to 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.

ENGL3561
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 lyric poetry. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3563
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.

ENGL3564
3 Credits
18th-century Literature II
The age of Johnson.

ENGL3565
3 Credits
The Romantic Era I
The English Romantics, with special attention to Blake, Wordsworth and Coleridge. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3566
3 Credits
The Romantic Era II
The English Romantics, with special attention to Shelley, Keats and Byron. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3567
3 Credits
The Victorian Era I
Mid-19th-century literature: poetry, prose and fiction. Prerequisite: ENWR1002 Composition II: Research and Argument.
Course Descriptions

English Language and Literature

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

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 literary traditions outside Britain, the United States and Europe. Prerequisite: ENWR1002 Composition II: Research and Argument.

ENGL3387
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.

ENGL3388
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.
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 view, 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 subcontinent. 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  
Glory and Shame: America on Film  

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.
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
Honors 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 writing of 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.

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

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, volcanoes, floods and hurricanes. A laboratory science elective for non-science majors.

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

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.
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

ENVR1125
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 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

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.

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.

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.

MEDT4505
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.

MEDT4507
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, NURS2115 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.
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.
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

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, and economic 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.
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, Marxist 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 will also 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.)

HUMN2445
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...
American University: Arts • Sciences • Professional Studies

Humanities

Course Descriptions

Metropolitan Campus and Vancouver Campus

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 Composition 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 Culture
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 folk and art
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 RELI3321 The Book of Job and Its Interpreters.)

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 Javan 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.

HUMN3356 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.
Rushdie and Jhumpa Lahiri) who have chosen to make their lives and careers beyond the subcontinent. 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 ENGL359 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 PHIL4310 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, J.R.R. 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 PHIL4432 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 PHIL4438 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 PHIL4439 Questioning Religion and RELI4439 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.)

Information Technology

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

**Course Descriptions**

### 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, microprocessors, 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-
Course Descriptions

Information Technology

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

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

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 CSC1201 Computer Programming I or INFO2101 Computer Programming for Information Technologists I. (Equivalent to CSC11202 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.

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.

INFO3508
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.

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.

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.
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 CSCI3591 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
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.

LANG3503
3 Credits
Myths and Folk Tales of Continental Europe
Knowledge and beliefs embodied in the myths and folk tales of various Western cultures.

LANG3506
3 Credits
Literature and Culture in Fin-de-Siècle Europe
Cultural crises as reflected in the artistic and literary movements in continental Europe.

LANG3507
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.

LANG3508
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
Course Descriptions

Marine Biology

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

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.

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: MBIO1129 Laboratory: Introduction to Marine Biology.

MBIO1219
0 Credits
Laboratory 4 hours
Laboratory: Introduction to Marine Biology

MBIO3320
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.

MBIO3340
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, identification and experimentation on tropical marine invertebrates. Prerequisites: MBIO1209 Introduction to Marine Biology and MBIO1219 Laboratory: Introduction to Marine Biology.
MBIO3650
4 Credits
Lecture 5 hours
**Physiology of Marine Animals**
*Fall, Spring*

MBIO3651
0 Credits
Laboratory 4 hours
**Laboratory: Physiology of Marine Animals**
*Fee*

MBIO3700
5 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 productivity. 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**
Precalculus 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**
Precalculus 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*

**MATH2203**
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).*
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.

MATH2245 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, posets, 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.

MATH2237 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.

MATH2238 3 Credits
**Applied Statistics II**
This follow-up course to MATH2237 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: MATH2237 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.

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 programming 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
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.

MENG2255
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.

MENG3155
3 Credits
Heat Transfer

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 MENG2255 Manufacturing Processes.

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.

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.

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.

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.

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.

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.

MENG4356
3 Credits
Stress and Vibration Analyses
Course Descriptions

Medical Technology

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

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: MENG2220 Manufacturing Processors; MENG4355 Analog and Digital Control or permission of instructor. Spring

MENG4365 3 Credits
Advanced 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

MEDT1150 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.

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.

MEDT4305 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.

MEDT4306 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.

MEDT4307 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.

MEDT4308 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.
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.)

MUSIC1103
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.)

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.

MUSIC3301
2 or 3 Credits
American Jazz and Popular Music
American popular music styles. Ballads through raggtime, 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.

NURS2005
3 Credits
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 PSYC1103 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
Fundamentals of Nursing I
This nursing practicum is designed to provide students with opportunities to apply the nursing...
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; 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: NURS2204 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 course 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 NURS2201 Health Assessment Laboratory.

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.

NURS2208
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.

NURS2209
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 exploring 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 NURS2009 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 healthcare 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 healthcare 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
This course introduces students to the 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.
This course will assist every student to develop leadership within health-care organizations.

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 I and NURS4441 Medical-Surgical Nursing Laboratory II.

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, NURS4441 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, NURS4441 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 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.

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.)

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-Socrates, 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
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

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 1942. Topics will include the development of Jewish literature, Maimoedas, Jewish mysticism, Judaism and Christianity, Judaism and Islam. Prerequisite: ENWR1002 Composition II: Research and Argument.

PHIL2251 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 "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, Marxist radicalism, radical feminism, radical individualism and postcolonial 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
Philosophy

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

PHIL 2445
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.)

PHIL 2446
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.)

PHIL 2448
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.)

PHIL 2450
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.)

PHIL 2452
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.)

PHIL 2545
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.)

PHIL 2550
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.

PHIL 3300
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.

PHIL 3302
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.

PHIL 3307
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 HUMN3307 Slavery and Global Ethics.)

PHIL 3310
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.

PHIL 3311
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.

PHIL 3316
3 Credits
Plato
Lecture and seminar in Plato's Dialogues designed to train the student in the 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.
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 HUMN4332 Gandhi: His Life, Philosophy and Legacy.)

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. 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.

PHED1133
1 Credit
Personal Fitness
Basic knowledge of exercise and diet in relation to weight control and development of various areas of the body. Use of equipment in a gym facility used to develop fitness levels.

PHED1142
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 macronutrients, 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.

PHED1153
1 Credit
Personal Fitness
Basic knowledge of exercise and diet in relation to weight control and development of various areas of the body. Use of equipment in a gym facility used to develop fitness levels.

PHED1157
1 Credit
Yoga
Hatha Yoga as a means of achieving a healthy body and inner tranquility. The understanding and practice of relaxation, controlled breathing techniques and yoga postures (asanas).

PHED1167
1 Credit
Weight Training
Use of nautilus machines and dumbbells for strengthening and toning major muscle groups.

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.

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.

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.
PHOSD4436
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.

PHYS4800
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

PHYS1114
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.

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
Lecture 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.

PHYS2202
1 Credit
Lecture 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.

PHYS2205
3 Credits
Lecture 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: MATH2101 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 PHYS2205 University Physics I. Corequisite: PHYS2202 Physics Laboratory II.

PHYS2208
1–3 Credits Each Semester

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.
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.

POLS2231
3 Credits
Comparative Government and Politics
Comparison of the development and functions of governmental institutions of selected modern political systems.

POLS2232
3 Credits
Political Thought and Theory
Evolution of political ideas and institutions from antiquity to modern times, and their interrelationship with the societal environment.

POLS2234
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.

POLS2253
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.

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 oriented. 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.

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.
Course Descriptions

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.

POLS3365
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

School of Psychology

PSYC 1105  
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.

PSYC 1125  
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 CRIM 1125 Introduction to Social Service Advocacy.)

PSYC 2126  
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: PSYC 1103 General Psychology.

PSYC 2201  
3 Credits  
Statistics  
Statistical concepts and procedures, with emphasis on descriptive statistics and an introduction to inferential statistics. Relevance to behavioral sciences.

PSYC 2204  
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: PSYC 1103 General Psychology.

PSYC 2254  
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: PSYC 1105 General Psychology.

PSYC 2255  
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.

PSYC 3100  
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.

PSYC 3202  
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: PSYC 2201 Statistics.

PSYC 3301  
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.

PSYC 3304  
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.
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: PSYC110 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: PSYC110 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: PSYC110 General Psychology.

PSYC3311  
3 Credits  
**Psychology of Love and Interpersonal Relations**  
Psychological aspects of the role of love and attraction 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: PSYC110 General Psychology.

PSYC3317  
3 Credits  
**Psychology and the Law**  

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, psychosomatically eating disorders and substance abuse. Prerequisite: PSYC110 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: PSYC110 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: PSYC110 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: PSYC110 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: PSYC110 General Psychology.
Course Descriptions

Psychology

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

PSYC393
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.

PSYC394
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.

PSYC421
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.

PSYC800
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.

PSYC900
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.

PSYC409
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.

PSYC476
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.

PSYC477
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.

PSYC491
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: PSYC3315 Abnormal Psychology or PSYC3384 Theories of Personality.

PSYC498
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.

PSYC499
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.

PSYC500
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.

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.

PSYC475
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.
Clinical Practicum I
3 Credit
RA DT1110
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: RA DT1105 Radiographic Procedures I, RA DT1110 Clinical Practicum I, RA DT1131 Principles of Radiographic Exposure I and RA DT1150 Fundamentals of Patient Care.

RA DT1105
4 Credit
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: RA DT1101 Introduction to Radiography and Protection, RA DT1110 Clinical Practicum I, RA DT1131 Principles of Radiographic Exposure I and RA DT1150 Fundamentals of Patient Care.

RA DT1110
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: RA DT1101 Introduction to Radiography and Protection, RA DT1110 Radiographic Procedures I, RA DT1115 Principles of Radiographic Exposure I and RA DT1150 Fundamentals of Patient Care.

RA DT1120
1 Credit
Clinical Practicum II
The second course in a series of eight clinical-education courses and a continuation of RA DT1110 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: RA DT1110 Clinical Practicum I.

RA DT1130
2 Credit
Clinical Practicum III
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: RA DT1101 Introduction to Radiography and Protection, RA DT1105 Radiographic Procedures I, RA DT1110 Clinical Practicum I and RA DT1150 Fundamentals of Patient Care.

RA DT1131
3 Credit
Principles of Radiographic Exposure I
This course introduces the student to all areas of radiographic study. Topics are included 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: RA DT1101 Introduction to Radiography and Protection, RA DT1105 Radiographic Procedures I, RA DT1110 Clinical Practicum I and RA DT1150 Fundamentals of Patient Care.

RA DT1155
4 Credit
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 this course are reinforced in structured laboratory and clinical practice. Prerequisite: RA DT1105 Radiographic Procedures I. Corequisites: RA DT1130 Clinical Practicum III and RA DT2251 Advanced Principles of Radiographic Exposure.

RA DT1140
4 Credit
Clinical Practicum IV
The fourth course in a series of eight clinical-education courses designed to enable the student radiographer to acquire competency in all previously covered imaging studies. Students are afforded 120 hours of experience to meet course objectives and requirements. Prerequisite: RA DT1130 Clinical Practicum III.

RA DT1150
3 Credit
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: RA DT1101 Introduction to Radiography and Protection, RA DT1105 Radiographic Procedures I, RA DT1110 Clinical Practicum I and RA DT1131 Principles of Radiographic Exposure I.

RA DT2250
2 Credit
Clinical Practicum V
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: RA DT1101 Introduction to Radiography and Protection, RA DT1105 Radiographic Procedures I, RA DT1110 Clinical Practicum I and RA DT1150 Fundamentals of Patient Care.

RA DT2251
3 Credit
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 complications and application of theory as it relates to clinical prac-
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.

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.

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.

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 Procedures III, RADT2277 Radiographic Imaging Equipment and Quality Management, RADT2270 Clinical Practicum VII and RADT2275 Radiographic Procedures IV.

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.

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.

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.

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.)
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 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 (Unayyad and Abbasid) 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.
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 systems including allopathic, homeopathic, ayurvedic and holistic.

SOCI3320
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:


Spanish Language and Culture

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.
Speech • Theater

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

SPAN5445

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.

SPAN5446

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.

SPAN5447

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 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: SPAN2104 Intermediate Spanish II or equivalent.

SPAN5459

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.

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.

THEA1103

3 Credits
Introduction to Theater
Theater as an art form, emphasizing playwrights, actors, directors, designers, technicians, dramatic forms and performing spaces. Off-campus going required. Recommended for majors.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEA1104</td>
<td>3</td>
<td>History and Development of the Theater I</td>
<td>Development and history of theater from its origins to the beginning of the English Renaissance.</td>
</tr>
<tr>
<td>THEA1105</td>
<td>3</td>
<td>History and Development of the Theater II</td>
<td>Development and history of theater from the English Renaissance to Ibsen. Prerequisite: THEA1104 History and Development of the Theater I or permission of instructor.</td>
</tr>
<tr>
<td>THEA1106</td>
<td>3</td>
<td>Playgoing and Analysis</td>
<td>Theater attendance and classroom criticism of professional productions. Backstage discussions. Cost for theater tickets additional. Students responsible for their own transportation.</td>
</tr>
<tr>
<td>THEA2205</td>
<td>3</td>
<td>Acting: Theory and Practice I</td>
<td>Basic theories and techniques of acting through scene and character analysis, body and voice training, improvisation and performance.</td>
</tr>
<tr>
<td>THEA2206</td>
<td>3</td>
<td>Acting: Theory and Practice II</td>
<td>Further study in basic theory and practice. Prerequisite: THEA2205 Acting: Theory and Practice I or department permission.</td>
</tr>
<tr>
<td>THEA2210</td>
<td>3</td>
<td>Directing: Theory and Practice II</td>
<td>Advanced course in directing techniques. Students will direct or co-direct a complete production. Prerequisite: THEA2219 Directing: Theory and Practice I or department permission.</td>
</tr>
<tr>
<td>THEA2211</td>
<td>3</td>
<td>Stagecraft</td>
<td>Survey and practicum in the techniques required to mount a theatrical production. Students required to participate in campus productions.</td>
</tr>
<tr>
<td>THEA2217</td>
<td>3</td>
<td>Speech for Actors</td>
<td>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.)</td>
</tr>
<tr>
<td>THEA2218</td>
<td>1</td>
<td>Technical Theater Production I</td>
<td>Experience in creating scenery, lighting, sound and special effects for theater productions. Not suitable for fine arts core.</td>
</tr>
<tr>
<td>THEA2219</td>
<td>3</td>
<td>Directing: Theory and Practice I</td>
<td>Basic theory and techniques of directing, organization, staging and interpretation. Students required to direct and perform at least two scenes per semester.</td>
</tr>
<tr>
<td>THEA3305</td>
<td>3</td>
<td>Advanced Acting I</td>
<td>Essential techniques stressing truthful human behavior on stage. Concentration on basic acting exercises.</td>
</tr>
<tr>
<td>THEA3306</td>
<td>3</td>
<td>Advanced Acting II</td>
<td>Continuation of THEA3305 Advanced Acting I. In-depth scene study. Prerequisite: THEA3305 Advanced Acting I or permission of instructor.</td>
</tr>
<tr>
<td>THEA3309</td>
<td>3</td>
<td>Advanced Directing I</td>
<td>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.</td>
</tr>
<tr>
<td>THEA3310</td>
<td>3</td>
<td>Advanced Directing II</td>
<td>Staging an original one-act play or preliminary work on staging a full-length play. Prerequisite: THEA3309 Advanced Directing I or permission of instructor.</td>
</tr>
<tr>
<td>THEA4432</td>
<td>1–3</td>
<td>Selected Studies in Theater</td>
<td>Studies in an area of theater. The course may be repeated but students may not repeat the topic.</td>
</tr>
<tr>
<td>THEA4800</td>
<td>1–3</td>
<td>Independent Study in Theater</td>
<td>Independent study under the direction of a specific faculty member after consultation with the school director.</td>
</tr>
</tbody>
</table>

*Fall, Spring, Summer*