Undergraduate
Course of Instruction
Course of Instruction

Courses numbered 100-199 are intended primarily for freshmen; courses numbered 200-299, for sophomores; and courses 300-399, for juniors and seniors. Courses numbered 400-499 are open to undergraduates who have met prerequisites and who complete paperwork available in the dean’s office of their school. As defined in the graduate section of this catalog, courses numbered 400-499 also are available to graduate students.

Courses numbered 500 and above are exclusively for graduate students. Student experience may suggest exceptions are warranted. In those instances, students should consult with their advisors. Deans have authority to approve exceptions.

Some advanced courses are not taught every year but are scheduled in cycles. The University reserves the right to limit the number of students registered in any course and to cancel any course for which there is insufficient enrollment.

Accounting

Accounting

ACCOUNTING 101
Principles of Accounting I
An introduction to the basic principles of Accounting, and how to account for business transactions. Emphasis on the understanding of how financial statements are prepared, and how they are used as a basis for decision making by business owners, investors, creditors, government and others interested in the financial condition of an economic entity and the results of its operations. Topics include Analyzing Transactions; the Matching Concept and the Adjusting Process; Completing the Accounting Cycle; Accounting for Merchandising Businesses; Accounting Systems, Internal Controls, and Cash; and Receivables.
3 semester hours

ACCOUNTING 102
Principles of Accounting II
A continuation of Accounting 101. Topics include Inventories; Fixed Assets and Intangible Assets; Current Liabilities; Corporations: Organization, Capital Stock Transactions, and Dividends; Income Taxes, Unusual Income Items, and Investments in Stocks; Bonds Payable and Investments in Bonds; Statement of Cash Flows; and Financial Statement Analysis. Prerequisite: Accounting 101.
3 semester hours

ACCOUNTING 103
Managerial/Cost Accounting
3 semester hours

ACCOUNTING 210
Financial Accounting Systems
Accounting systems for internal control, cash management, accounts receivables, inventories, plant assets, payroll, taxes, and other liabilities. Study of manual and computerized systems.
3 semester hours

ACCOUNTING 300
Intermediate Accounting I
3 semester hours

ACCOUNTING 301
Intermediate Accounting II
3 semester hours

ACCOUNTING 302
Advanced Accounting
Coverage of selected advanced topics including accounting for investments, accounting for mergers and acquisitions, consolidation procedures, foreign currency transactions and currency translation, segment reporting, and accounting for government and not-for-profit organizations.
3 semester hours

ACCOUNTING 311
Taxation of Individuals
An introduction to the basic principles of federal taxation, with a concentration on taxation of individuals. It provides students with the knowledge to complete individual tax returns.
3 semester hours

ACCOUNTING 312
Taxation of Entities
An introduction to the basic principles of federal taxation, concentrating on the taxation of corporations, partnerships, S Corporations, trusts and estates, and exempt organizations. It provides students with the competencies necessary to complete tax returns for each entity.

ACCOUNTING 327
Multinational Accounting
A global perspective of accounting practices. Development and role of accounting in selected countries, comparative practices in financial reporting and disclosure, setting international accounting standards, and examinations of auditing and taxation issues. Prerequisite: Accounting 101.
3 semester hours

ACCOUNTING 335
Auditing
Study of generally accepted auditing standards, practice and procedures in the audit of financial statements. Includes study of ethical issues and professional responsibilities of the Certified Public Accountant to investors, creditors and others who rely on the auditor’s opinion when using audited financial statements to make decisions. Prerequisite: Accounting 308.
3 semester hours

Art & Design

The Art Department reserves the right to retain selected samples of student work. A minimum of four hours of outside assignments per week is required in Studio Courses.

STUDIO FEES
Most studio courses have a fixed standard materials fee per course. Studio fees listed are subject to change. Consult course schedules for current rates.

ART & DESIGN 100
Introduction to Art & Design
Introduction to art and design professions in the context of the majors available at the
Art & Design

University.
1 semester hour

ART & DESIGN C101
Fine Arts
Introduction to theories of value in the arts. Principles of aesthetics as historically applied to plastic and performing arts. Theories of Beauty and their critique in Western and non-Western contexts. Pre-modern, modern and post-modern approaches to the analysis of the arts and architecture. This course may include a studio or performing component.
A Core Heritage Course. Prerequisite: ENGL C101 or department permission.
3 semester hours

ART & DESIGN 103
2D Design
Problems in two-dimensional design and the interaction of color: the exploration of the elements of art and their interrelationships; visual and psychological factors involved in two-dimensional design and visualization. Introduces art and design presentation techniques including the portfolio. Emphasizes topics not covered in ADSN 104.
3 semester hours

ART & DESIGN 104
Visual Organization II
Problems in two-dimensional design and the interaction of color: the exploration of the elements of art and their interrelationships; visual and psychological factors involved in two-dimensional design and visualization. Introduces art and design presentation techniques including the portfolio. Emphasizes topics not covered in ADSN 103.
3 semester hours

ART & DESIGN 105
Drawing I
Fundamentals of drawing. Visualizing in two and three dimensions. An introduction to various media techniques and orthographic delineation methods including perspective drawing systems. Use of objects and figures in developing rapid visualization skills. Emphasizes topics not covered in ADSN 106.
3 semester hours

ART & DESIGN 106
Drawing II
Fundamentals of drawing. Visualizing in two and three dimensions. An introduction to various media techniques and orthographic delineation methods including perspective drawing systems. Use of objects and figures in developing rapid visualization skills. Emphasizes topics not covered in ADSN 105.
3 semester hours

ART & DESIGN 108
3-D Design
Fundamentals of three-dimensional design. The investigation of the interrelationships of spaces, planes, and volumes in three-dimensional structures. Materials such as paper, clay, plaster, plastic and wood will be introduced and explored for use in the construction of three-dimensional models. Students will be instructed in the use of model-making tools, equipment and processes appropriate to materials introduced.
3 semester hours

ART & DESIGN 110
Drafting
Introduces basic orthographic drafting techniques and technologies. Presentation and layout techniques used to enhance objects and environments. Introduces the representation of spatial designs including plans, views, elevations/sections, isometrics, axonometrics, perspectives, dimensioning and detail drawing. Provides basic introduction to computer-aided drafting.
3 semester hours

ART & DESIGN 113
Introduction to Computers
Introduction to equipment in computer laboratory and word processing. Areas covered include the Mac, PC, storage devices, scanning and printing. Course structure consists of demonstration, lecture, and lab work.
1 semester hour

ART & DESIGN 117
Survey of Art History I
The development of visual art from prehistoric civilizations through the Medieval period. Multicultural developments and the changing role of the artist in society will be emphasized.
3 semester hours

ART & DESIGN 118
Survey of Art History II
The development of visual art from the Renaissance through the 20th Century, focusing on the modern role of art and artists in a global context.
3 semester hours

ART & DESIGN 119A, 119B
Introduction to Computer Applications
A survey of the primary image processing, layout, vector graphic and digital presentation software. Color correction, scanning and document set up for desktop publishing output is also covered.

ART & DESIGN 200
Co-op Work Experience
Through the co-op program, the student will be placed in full-time and part-time working positions in art, illustration, graphic design, industrial design and interior design. Prerequisite: 30 semester hours; by arrangement.
1-6 semester hours

GRAPHIC DESIGN 204
Typography I
The history, design and execution of letter forms in both analog and digital form are covered. Projects include the development of letter forms from pen and brush to digital font design. The emphasis is on the arrangement of type in design layout and the use of letter forms in an electronic presentation environment. Prerequisite: ADSN 219.
3 semester hours

GRAPHIC DESIGN 206
Interiors Drawing IV
Advanced drawing techniques utilizing a variety of media and subjects. Investigates structure, materials and scale by illustrating and rendering figures, objects and environments. Emphasizes topics not covered in Art & Design 205 such as advanced orthographic drawing techniques. Prerequisite: ADSN 105 and ADSN 106.
3 semester hours

ART & DESIGN 205
Drawing III
Advanced drawing techniques utilizing a variety of media and subjects. Investigates structure, materials and scale by illustrating and rendering figures, objects and environments. Emphasizes topics not covered in Art & Design 206 such as production and assembly drawings. Prerequisite: ADSN 105
Art & Design

and ADSN 106. 
3 semester hours

ART & DESIGN 207
Illustration I
A basic hands on course for developing a strong technical rendering foundation. An emphasis is placed on creative problem solving and simultaneous technical development. Editorial illustration for books, magazines, and advertising, etc. is the purpose of the course. Prerequisite: ADSN 103, ADSN 104, ADSN 105 and ADSN 106. 
3 semester hours

ART & DESIGN 208
Illustration II
Continuation and second level of Art & Design 207 Illustration I. An emphasis is placed on creative problem solving and simultaneous technical development in an electronic environment. Editorial illustration for books, magazines, and advertising, etc. for an electronic prepress environment is accompanied with learning advanced paint, photo-manipulation and logo software. Prerequisite: ADSN 207 and ADSN 219. 
3 semester hours

ART & DESIGN 209
Painting I
The principles of painting, through a series of visual problems, working from nature. The understanding of pictorial space through control of drawing, value and color. Emphasizes topics not covered in Art & Design 210. 
3 semester hours

ART & DESIGN 210
Painting II
The principles of physical and digital painting through a series of problems uniquely structured for the combination of analog and digital media. The understanding of representation and appropriate presentation methods relative to analog and digital media is the emphasis of the course. Prerequisite: ADSN 209, and ADSN 219. 
3 semester hours

ART & DESIGN 212
Introduction to Visual Semiotics
Semiology (from the Greek semeion ‘sign’). In semiotics, ‘signs’ and symbols may be words, images or anything from which meanings may be generated and used to communicate. The course is an introduction to the analysis, appreciation and reading of broad range of signs and symbols to empower the communication practitioner to expand their visual vocabulary. Myth, Metaphor, Religious Iconography, Advertising and more, will be investigated to establish a communication value. With this added knowledge the students can be a more sophisticated globally aware communicator in their field of practice. The course consists primarily of video and slide screenings, followed by written analysis, reading and discussion. Prerequisite: ADSN 219, and ADSN 249. 
3 semester hours

ART & DESIGN 221
Ceramics I
A basic approach to functional and sculptural clay modeling and firing techniques. The course exposes students to a variety of techniques used by different cultures from around the globe, both past and present. The course is to develop an appreciation for 3-Dimensional form. 
3 semester hours

ART & DESIGN 223
Sculpture I
Techniques of three dimensional design applied to a variety of materials and used for expressive purposes. Includes figure sculpting and armature construction. 
3 semester hours

ART & DESIGN 230
Video I
History, theory, and practice of analog and digital capturing and editing. Use of cameras and software for digitizing and editing. An emphasis on a narrative film style (story telling) is utilized to prepare students for later work in Web and Multimedia design. Prerequisite: ADSN 219. 
3 semester hours

ART & DESIGN 231
Photography I
This is a non-darkroom course for using professional studio equipment in and out of the studio to fulfill assignments in advertising, industrial, commercial and portrait photography by combining creativity and technical knowledge. The fundamentals of picture taking, camera types, and history will be covered. Emphasis is on studio lighting with a final concern for documenting 2D and 3D work in a portfolio format.
3 semester hours

ART & DESIGN 255

Studio I
Print Design I – Fundamentals of page composition. Students will demonstrate an understanding of basic typographic and page composition principles through a variety of traditional and digital mediums. Prerequisites: ADSN 103 and ADSN 119. 
3 semester hours

ART & DESIGN 256

Studio II
Print Design II – Intermediate print design. This course explores the combination of type and image on the printed page. The course focuses on using grids, along with the basic principles of typography as methods for organizing content in print. Prerequisites: GDSN 255 (DS I). 
3 semester hours

ART & DESIGN 305

Studio III
Print Design III – Advance printing design: Students will create campaigns in a series of projects to cover all aspects of identity design, from business stationary to promotional brochures, packaging design and environmental signage. Techniques for reinforcing a corporate identity will be covered. Prerequisites: GDSN 256 (DS II). 
3 semester hours

ART & DESIGN 306

Studio IV
Web Design: Producing and displaying design content for the Web branch of the Internet and adapting that content to the requirements and restrictions of that medium. Students will develop skills in using mark-up languages to make functional and accessible documents for the World Wide Web, develop skills in structuring, linking, and maintaining multiple documents within a web site, and develop skills in incorporating visual elements to enhance information. Prerequisites: GDSN 305 (DS III). 
3 semester hours

ART & DESIGN 309

Painting III
Investigation of a variety of media and techniques. Problems emphasizing composition formulation. Emphasizes topics not covered in ADSN 310. Prerequisite: 30 units of Art & Design courses or equivalent and ADSN 209, ADSN 210. 
3 semester hours

216
ART & DESIGN 317
Photography II — Digital & Non Silver, Alternative Photography
This is a studio course for the photographer that is more concerned with the esthetic, process, materials and digital technology to support content. Various methods of photographic representation will be explored, both digital and non-silver for the purpose of presentation and exhibition. Methods will vary from Polaroid transfer, cyanotype, gum-bichromate and digital prints. Prerequisite: ADSN 231 and ADSN 219.
3 semester hours

ART & DESIGN 319
Printmaking I
Introduction to printmaking studio practices including intaglio, lithography, relief, paper making, etc. The course exposes students to a variety of techniques used by different cultures from around the globe, both past and present. 3 semester hours

GRAPHIC DESIGN 355
Portfolio Preparation
Students will prepare their portfolios for both print and web formats. Reworking of previous design to improve for portfolio presentation. Developing new pieces to enhance and broaden the current body of work. Prerequisite: GDSN 306 (DS IV)
3 semester hours

GRAPHIC DESIGN 356
Thesis/Portfolio II
This is an individual statement. The applied knowledge of five semesters of study will support future investigation. The body of work and research should reflect a concentration of study in a chosen area of practice as stated in the thesis proposal, e.g., design, advertising, publishing (www, etc. The student will work with an advisor in the chosen field and thesis teacher for 2 semesters. The focus of the class is to assist the student in developing a critical appreciation of their work through concentrated input from faculty, students and guest critics. The course requires a body of work accompanied by a written statement and slide documentation, as well as a complete portfolio.
3 semester hours

ART & DESIGN 357
Illustration III
Advanced illustration problems and techniques for magazines, advertising, fashion, children’s books, newspapers and preparation of a professional portfolio. Media used by illustrators including specialized painting and drawing techniques will be studied with emphasis on the importance of style in contemporary illustration. Various markets will be studied to identify appropriate potential markets for student illustrations. Work with editors and art directors. Deadline development and portfolio preparation for each market type. Emphasizes topics not covered in ADSN 358. Prerequisite: ADSN 207, ADSN 208.
3 semester hours

ART & DESIGN 376
History of Modern Art
Global art of the 20th Century with the inclusion of electronic and computer art. Prerequisite: Art & Design 117 and 118.
3 semester hours

ART & DESIGN 377
History of Modern Design
Survey of major design movements of the 19th & 20th Centuries. Studies in the national and international relationship of art and design in such groups as De Stijl and the Bauhaus.
3 semester hours

ART & DESIGN 378
History of Photography
A survey of photographic history from its earliest beginning to the present day. Major photographers, styles, and trends in a social context are covered. The course will also include political, social, and scientific influences on photography, and the role of photography in everyday life. Through slide lectures and class work, students will learn to look at, talk, and write about photographs. Prerequisite: ADSN 117 and ADSN 118.
3 semester hours

ART & DESIGN 379
History of the Graphic Arts
Survey of the history of illustration and graphic design, with emphasis on their global application in communications media.
3 semester hours

ART & DESIGN 380
History of Modern Architecture & Urbanism
Survey of the major movements in architecture and urban planning from the 19th Century to the present. Considers the problems of vernacular architecture, urban design, historicism, functionalism, post-modernism.
3 semester hours

ART & DESIGN 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
3 semester hours

ART & DESIGN 399
Independent Study/Special Projects
For the student who desired to specialize in advance projects not covered by the regular course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director.
1-6 semester hours

ART & DESIGN 408
Selected Topics in Modern Art & Design History
Seminar examining specific topics in the global history of modern art and design such as Dada, Abstract Expressionism, furniture design, performance art, computer & media arts. Prerequisite: 12 semester hours of art history or permission of the instructor.
3 semester hours

ART & DESIGN 425
Advanced Topics I
Advanced undergraduate or graduate level topics with directed or independent study formats. Prerequisite: division approval; advanced standing; 30 semester hours of Art & Design courses or equivalent. By arrangement; 2-10 semester hours.

Industrial Design

INDUSTRIAL DESIGN 107 (IDDSN 107/ITDSN 107)
Product Lab Orientations
This non credit course is required prior to student use of the lab equipment. It is an introduction to the proper operation of equipment and an understanding of the lab rules. Students will gain a respect for the equipment and an understanding and proper equipment practices. Eye protection and other safety protection will be worn at all times while in the lab.
0 semester hours

INDUSTRIAL DESIGN 215
Materials and Manufacturing I
Introduction to ferrous and nonferrous metals and their manufacturing methods, including liquid state, plastic state, and solid state forming; chip and non chip cutting; welding, chemical and mechanical joining; and
Industrial Design

the finishing process available. Students will develop an individual or group project and complete semester research/project report.
3 semester hours

INDUSTRIAL DESIGN 216
Materials and Manufacturing II
Introduction to thermoset and thermoplastic polymers and elastomers, rubber and other natural engineering materials and their manufacturing methods, including liquid state, plastic state, and solid state forming, chip and non-chip cutting, welding, chemical and mechanical joining, and the finishing processes available. Students will develop an individual or group project and complete a semester research/project report.
3 semester hours

INDUSTRIAL DESIGN 217 (IDDSN 217/ITDSN 217)
Computer Aided Drafting
In this course students will learn the basics of computer aided drafting. Students will be expected to complete a tutorial and several assigned projects. A semester report including all projects will be completed. Three 1 semester hour modules

INDUSTRIAL DESIGN 218A (IDDSN 218A/ITDSN 218A)
Beginning CADD
This course is an introduction to computer aided 3D Modeling. Subjects covered will include Introduction and Interface, drawing 2D shapes, mixing straight lines and arcs, numerical input, generating, viewing and rendering objects, moving rotating, sizing and mirroring objects, and drawing derivative objects. Elementary projects may be assigned, and a semester report may be generated.
2 semester hours

INDUSTRIAL DESIGN 218B
Intermediate CADD
This is an intermediate class in computer aided 3D modeling. Subjects covered will include terrain models, curved lines and meshes, deformations, boolean, trim and stitch operations, and attaching extending and attaching objects. Intermediate projects will be assigned, and a semester report will be generated.
2 semester hours

INDUSTRIAL DESIGN 218C
Advanced CADD
This is an advanced class in computer aided 3D modeling. Subjects covered will include reference planes and their palettes; drafting tools, advanced rendering, export features and animation models. Advanced projects will be assigned and a semester report will be generated.
2 semester hours

INDUSTRIAL DESIGN 255
Industrial Design Studio I
A studio course where elementary product design projects are assigned. Projects will begin with advanced foundation studies, along with simple hand held products, and advance through simple mechanically activated products. Emphasis will be placed on aesthetic development, user requirements, and design for manufacturability. A beginning professional portfolio will be initiated. Prerequisite: Foundation courses and Drafting.
3 semester hours

INDUSTRIAL DESIGN 256
Industrial Design Studio II
Continuation of IDDSN 256
3 semester hours

INDUSTRIAL DESIGN 305
Industrial Design Studio III
A studio course where complex product design projects are assigned. These projects will begin with simple, electrically powered products, and advance through more sophisticated electromechanical products. Emphasis will be placed on aesthetic development, user requirements, and design for manufacturability. Students will be expected to produce a report for each project and for the semester. A professional portfolio will be further developed. Prerequisite: IDDSN 256, IDDSN 218A A&B, and IDDSN 309.
3 semester hours

INDUSTRIAL DESIGN 306
Industrial Design Studio IV
Continuation of IDDSN 305.
3 semester hours

INDUSTRIAL DESIGN 309 (IDDSN 309/ITDSN 309)
Human Factors
Analysis of Human anatomy versus function. Recognition, investigation, exploitation of static/dynamic human movements. Relationships of products, systems and environments to the human scale. Ergonomics and motions that relate to the performance of tasks. Students will develop apparatus to provide significant quantitative data. Variety of advanced studies on dynamic interaction of the body and the environment, products, and systems. Study of the relationship of age, sex, and disabilities to human movements. Creative research projects and the development of mechanical/electric test prototypes to collect quantitative data.
3 semester hours

INDUSTRIAL DESIGN 311 (IDDSN 311/ITDSN 311)
Exhibit Design
A course exploring the fields of display and exhibit design including trade shows, fairs, theme exhibits, mobile exhibits, pavilion and museum design, point of purchase, window and showroom design. The student will be exposed to a variety of project experiences including rendered presentations, model making and construction details. Area included will cover special effects, dioramas, crowd flow management, lighting design, graphics, signage, subcontract specifications and portfolio techniques unique to the field. Field trips. Prerequisite: ADSN 205, ADSN 206.
3 semester hours

INDUSTRIAL DESIGN 355
Industrial Design Studio V
A studio course where complex product systems are assigned. Projects will include sophisticated electromechanical products. Emphasis will be placed on research, aesthetic development, user requirements, and design for manufacturability. Project reports will be generated which will include detailed analysis, synthesis, material specification, and complete design documentation. A professional portfolio will be completed. When possible, the student is encouraged to work with other professions like engineering and with corporate sponsorship. Prerequisite: IDDSN 306.
3 semester hours

INDUSTRIAL DESIGN 356
Industrial Design Thesis
A studio course where individual and interdisciplinary group projects of complex product systems are initiated and executed by the student(s). Projects will include sophisticated computer controlled electromechanical products and systems. Emphasis will be placed on research, aesthetic development, user requirements, material specifications, and design for manufacturability. A thesis report will be generated, which will include detailed analysis and synthesis, material specification and complete design documentation, including a set of working drawings and a final model and rendering. A professional portfolio will be completed. Prerequisite: IDDSN 355.
3 semester hours
Industrial Design • Interior Design

INDUSTRIAL DESIGN 398
Internship I & II
Summer internship following the Sophomore and Junior years. The student is expected to locate a summer job with the assistance of the ID department. A mutually beneficial job description and expected output will be developed with the participating entity and conveyed to the student. A portfolio of projects is required. Where confidentiality is required, care will be taken to protect the job, yet provide the student with adequate work examples, including a strong emphasis on CAD/CAM. Students will develop a project(s) portfolio and complete an intern project report. 1-6 semester hours each

INDUSTRIAL DESIGN 399
Special Projects
This is an advanced studio course for competitions, sponsored projects, and other design projects like furniture and lighting. Students will develop a semester research/project report. 1-9 semester hours

Interior Design

INTERIOR DESIGN 107 (ITDSN 107/IDDSN 107)
Product Lab Orientations
This non-credit course is required prior to student use of the lab equipment. It is an introduction to the proper operation of equipment and an understanding of the lab rules. Students will gain a respect for the equipment and an understanding of proper equipment practices. Eye protection and other safety protection will be worn at all times while in the lab. 0 semester hours

INTERIOR DESIGN 200
Co-Op Work Experience
Through the co-op program, the student will be placed in full-time and part-time work working positions. Prerequisite: Completion of 30 semester hours; Permission of advisor and School Director; by arrangement. 3 semester hours

INTERIOR DESIGN 215
Interior Construction Systems
Students study architectural systems, details, and building codes. Construction methods and materials of foundations, walls, partitions, floors, ceilings, and roofs are covered, as well as doors, windows, stairs, and fireplaces. Continued study of building components and energy systems. Plumbing, heating, ventilating, air conditioning, acoustics and solar energy will be examined. Students will be able to represent knowledge of systems and sub-structure details. 3 semester hours

INTERIOR DESIGN 217
Color Studies for Interiors
This course is an extension of 2D principles/Color Theory. Students are introduced to further color studies and rendering techniques using various media. Additional studies will focus on composition of materials/color boards as visual presentation tools. 3 semester hours

INTERIOR DESIGN 218A (ITDSN 218A/IDDSN 218A)
Beginning CADD
This is an advanced class in computer-aided 3D modeling. Subjects covered will include: Introduction and Interface, drawing 2D shapes, mixing straight lines and arcs, numerical input, generating, viewing and rendering objects, moving, rotating, sizing, and mirroring objects, and drawing derivative objects. Elementary projects may be assigned, and a semester report may be generated. 2 semester hours

INTERIOR DESIGN 218B (ITDSN 218B/IDDSN 218B)
Intermediate CADD
This is an intermediate class in computer-aided 3D modeling. Subjects covered will include terrain models, curved lines and meshes, deformations, boolean, trim and stitch operations, and attaching extending and attaching objects. Intermediate projects will be assigned, and a semester report will be generated. 2 semester hours

INTERIOR DESIGN 218C (ITDSN 218C/IDDSN 218C)
Advanced CADD
This is an advanced class in computer-aided 3D modeling. Subjects covered will include reference planes and their palettes, drafting tools, advanced rendering, export features and animation models. Advanced projects will be assigned and a semester report will be generated. 2 semester hours

INTERIOR DESIGN 255
Studio I
Introductory level course in Interior Design. Application of design theory to commercial and residential interiors. Introduction to human factors, programming, space planning, application of color, form, texture, pattern and aesthetic sensitivity to various interior problems with an emphasis on creativity and innovation. Students will communicate design ideas with a variety of two and three dimensional presentation techniques. 3 semester hours

INTERIOR DESIGN 256
Studio II
Exploration of more complicated problems in commercial and residential interiors with continued emphasis on human factors, space planning, creativity and innovation. Application of knowledge of architectural systems to design solutions. Introduction to multi-level spaces, atypical users and barrier-free design. Design solutions will be presented using a variety of two and three dimensional skills with continued development of media and presentation techniques. 3 semester hours

INTERIOR DESIGN 303
Materials, Products and Applications
Examination of background finishes and materials from construction and manufacturing processes through measurement and installation methods. Areas covered include floor, wall, and ceiling materials as well as woods, laminates, and glass. 3 semester hours

INTERIOR DESIGN 304
Business Practices and Ethics
Lecture course on business practices and professional ethics as applied to the Interior Design profession. Survey of business types, marketing and selling of services and products, and fee structures will be discussed. Current trends in safety, codes and licensing issues will be explored. Examination and preparation of business forms including contractual agreements, budget estimates, purchase orders, and invoices will be covered in depth and applied to the thesis project. Prerequisite: ITDSN 356 3 semester hours

INTERIOR DESIGN 305
Studio III
Introduction to more difficult Interior problems in both commercial and residential design. Students will work more advanced programming, space planning, circulation problems and human factors. Continued emphasis on creativity and innovative problem solving. Ap-
plication of architectural and energy systems as well as safety and building codes to design solution. Sensitivity to atypical users and their needs will be expanded. Architectural and design details, materials and finishes will be incorporated in the final design proposal. Prerequisite: ITDSN 265, ITDSN 266. 3 semester hours

INTERIOR DESIGN 306
Studio IV
Continued development of knowledge and skills learned in Interior Design 305 to effectively solve interior design problems in residential and commercial design solutions. Design proposals will be presented Prerequisite: ITDSN 355. 3 semester hours

INTERIOR DESIGN 355
Studio V (Thesis)
Students will develop a thesis project in Interior Design which will highlight their ability to solve complicated design problems creatively while being sensitive to human factors, structure and energy systems, programming, circulation, materials and finishes, design details, custom cabinetry and furniture. The design solution will be presented using a variety of advanced two level and three dimensional techniques. Rationale for solution will be validated by research data. Prerequisite: ITDSN 356. 3 semester hours

INTERIOR DESIGN 356
Studio VI
Course involving extensive work in large office space planning and residential design. Knowledge of interior products and specifications will be incorporated into design solutions. Students will assemble a final portfolio representative of their design education experiences. Prerequisite: ITDSN 355. 3 semester hours

INTERIOR DESIGN 307
Lighting
An introductory course in Lighting for Interior Spaces. What light is, how it can be produced and how the eye perceives it will be examined. Students will learn basic lighting terminology as well as what equipment is available for commercial and residential use and their appropriate applications. The effect of light to create a mood or atmosphere will be explored. Lighting plans for interior spaces will be generated with an emphasis on technical as well as aesthetic concerns. 3 semester hours

INTERIOR DESIGN 309 (ITDSN 309/IDDSN 309)
Human Factors
Analysis of Human anatomy versus function. Recognition, investigation, exploitation of static/dynamic human movements. Relationships of products, systems and environments to the human scale. Ergonomics and motions that relate to the performance of tasks. Students will develop apparatus to provide significant quantitative data. Variety of advanced studies on dynamic interaction of the body and the environment, products, and systems. Study of the relationship of age, sex, and disabilities to human movements. Creative research projects and the development of mechanical/electric test prototypes to collect quantitative data. 3 semester hours

INTERIOR DESIGN 311 (ITDSN 311/IDDSN 311)
Exhibit Design
A course exploring the fields of display and exhibit design including trade shows, fairs, theme exhibits, mobile exhibits, pavilion and museum design, point of purchase, window and showroom design. The student will be exposed to a variety of project experiences including rendered presentations, model making and construction details. Area included will cover special effects, dioramas, crowd flow management, lighting design, acoustics, graphics, signage, subcontract specifications and portfolio techniques unique to the field. Field trips. Prerequisite: ADSN 205, ADSN 206. 3 semester

INTERIOR DESIGN 312
Furniture Design
Students will have an opportunity to do specialized design work in furniture. Exploration of materials, colors, textures, forms, human factors and manufacturing techniques to create uniquely aesthetic and functional solutions to furniture design problems. Students will be required to do free hand and orthographic drawings as well as a variety of three dimensional models from sketch to final prototype. Prerequisite: ITDSN 309. 3 semester hours

INTERIOR DESIGN 362
Construction Documents
Preparation of Construction Documents for Interiors will be covered in depth and applied to the Thesis project. Drawings to be prepared include construction/demolition, electric/telephone, reflected ceiling, floor finishes, applied finishes, panel and post, and furniture plans as well as detail drawing for special construction, custom cabinetry, furniture and millwork. Prerequisite: ITDSN 365. 3 semester hours

INTERIOR DESIGN 398
Internship
Professional, supervised, paid or unpaid work in an organization related to career goals. Students will be required to develop a project portfolio and complete an internship project report. Prerequisite: Permission of advisor and School Director. 3 semester hours

Biology

BIOLOGY 101
General Biology I
The course deals with the general biological principles that govern all living organisms. Concepts dealt with include origin of life, structure and function of cells, genetics and evolution. Co-requisite: MATH 105. 3 class periods; 1 three-hour laboratory period; 4 semester hours

BIOLOGY 102
General Biology II
The course examines the diversity of life in terms of their taxonomy, anatomy, physiology and ecology. Emphasis is placed on vertebrate structure and function. Co-requisite: MATH 105. 3 class periods; 1 three-hour laboratory; 4 semester hours

BIOLOGY 106
Elementary Microbiology
Principles of microbiology, including basic morphology, reproduction, environmental effects, sterilization procedures, and immunology. Selected laboratory exercises. Not open to biology majors. 3 class periods; 1 two-hour laboratory period; 4 semester hours

BIOLOGY 113, 114
Anatomy and Physiology I and II
Anatomy and physiology combined to yield a workable knowledge of the human body. Structure and function taught concurrently, each in terms of the other to engender ap-
Biology

précipitation of interlocking relationships. Available to biology majors on a restricted basis.

3 class periods; 1 two-hour laboratory period; 8 semester hours

BIOLOGY 200
Biology Cooperative Education Program
Students who enter the Biology Cooperative Education Program take this course for each semester that they are employed full-time or part-time in paid work assignments. A written report will be required describing significant achievements resulting from his/her work experience. Prerequisite: At least 30 semester hours with a 2.5 QPR and department approval Pass/Fail only.

0-1 semester hour

BIOLOGY 203
Human Sexual Biology
Human sexual biology is examined within the context of male and female reproductive system structure, function, and dysfunction. Modern biomedical and biotechnological issues and methodologies as they might relate to the future course of human sex and reproduction are explored.

3 semester hours

BIOLOGY 210
Comparative Anatomy
An integrated study of vertebrate structure from a phylogenetic approach. Laboratory studies will include dissection of representative forms. Prerequisite: Biology 102.

2 class periods; 2 three-hour laboratories; 4 semester hours

BIOLOGY 211
General Physiology
Physiological and biochemical control and functioning in systems. Laboratory work designed to acquaint the student with basic physiologic experimentation, and the interpretation and presentation of data. Required of all biology majors. Prerequisite: Biology 101.

3 class periods; 1 three-hour laboratory; 4 semester hours

BIOLOGY 223
Ecology
Relationship of living organisms to their environment; distribution, climatic factors, ecological succession; homeostasis and adaptability of the organism are considered. Field trips designed to emphasize and illustrate major habitats, life zones, and ecological principles. Required of all biology majors.

Prerequisite: Biology 101, 102.

3 class periods; field trips by arrangement; 1 three-hour laboratory; 4 semester hours

BIOLOGY 300
Internship
Practical application of previous course work during supervised training in commercial, government or private laboratories. Prerequisite: Permission of Chair.

By arrangement; 1-16 semester hours; Pass/Fail only

BIOLOGY 303
Histology
Detailed analysis of the microscopic structure of animal cells and tissues. Laboratory work limited to study of prepared microscopic material. Prerequisite: Biology 101.

3 class periods; 1 three-hour laboratory periods; 4 semester hours

BIOLOGY 307
Genetics
The laws of biological inheritance and their practical application to life; principles of genetics and evolution derived from historical evidence of both plants and animals. Brief consideration of theories of organic evolution. Required of all biology majors. Prerequisite: Biology 101 or Biology 113-114.

3 semester hours

BIOLOGY 320
Microbiology
Fundamentals of microbiology. Molds, pathogenic and nonpathogenic bacteria, and viruses; their relationships to man, industry, and agriculture. Laboratory study of cultural, morphological, and physiological properties of representative types. Emphasis on development of technique. Prerequisite: Biology 211.

2 class periods; 2 two-hour laboratory periods; and some nonscheduled laboratory work; 4 semester hours

BIOLOGY 321
Cell Physiology
A lecture course introducing the homeostatic mechanisms of the cell. Chemical composition, metabolism, permeability, synthesis and growth. Required of all biology majors. Prerequisite: Biology 211.

3 semester hours

BIOLOGY 324
Endocrine and Reproductive Biology
A review of endocrine tissues, the hormones they produce, and their mechanisms and interactions with special emphasis on human reproductive endocrinology and physiology. Prerequisite: Biology 211.

3 semester hours

BIOLOGY 328
Human Embryology
A detailed study of human gametes, fertilization, placentation, and fetal development through the 12th week of gestation. Prerequisite: Biology 101, 102.

3 semester hours

BIOLOGY 380-381
Selected Topics
Modern concepts in the area of the instructor’s specialty. To be announced each semester.

1-4 semester hours

BIOLOGY 397H
Independent Study for Honors
No regular lectures or laboratory periods. Outstanding students do independent work under the guidance of a faculty member. To be eligible for honors study, a student must have the permission of the Department Chair.

2-6 semester hours

BIOLOGY 398
Readings
Individual library studies under faculty direction in an area of student interest. An acceptable paper must be presented. Prerequisite: Permission of the instructor and Department Chair.

2-6 semester hours

BIOLOGY 399
Directed Research
Opportunity for the student to pursue laboratory research under the direction of a faculty specialist. Prerequisite: Permission of the instructor and Department Chair.

1-6 semester hours

BIOLOGY 398 & 399
* A student may take not more than 6 semester hours of total combined credit in 398 & 399.

BIOLOGY 399
Independent Study for Honors
No regular lectures or laboratory periods. Outstanding students do independent work under the guidance of a faculty member. To be eligible for honors study, a student must have the permission of the Department Chair.

2-6 semester hours

BIOLOGY 399
Directed Research
Opportunity for the student to pursue laboratory research under the direction of a faculty specialist. Prerequisite: Permission of the instructor and Department Chair.

1-6 semester hours

BIOLOGY 402
Evolution
Survey of modern evolutionary theory, including bio-medical applications. Prerequisite: BIOL 101, BIOL 102.

2 lectures; field trips by arrangement; 3 semester hours
**Biology • Biomedical Engineering • Business Administration**

**Biology 418**
**Environmental Health**
Introduction by lecture and on-site visits to aspects of the biotic world of man, water, air and noise pollution sewage disposal, food handling. Prerequisites: BIOL 101, BIOL 102.
2 lecture; field trips by arrangement; 3 semester hours

**Biology 430**
**Marine Ecology**
Examination of the ecology of the oceans; relation of distribution to the physical and chemical environments; productivity of the marine communities and the interaction of man with marine communities. Prerequisite: BIOL 211 and permission of the instructor.
3 lecture; 1 three-hour lab; 4 semester hours

**Biology 441**
**Immunology**
Consideration of the basic principles and concepts of the mechanics of immunity and the relation of immunological phenomena to biological problems. Prerequisite: BIOL 211.
4 lecture; 4 semester hours

**Biology 443**
**Molecular Biology**
A course on Molecular Biology; the study of genes and their activity at the molecular level, DNA replication and repair, transcription, translation, recombination, translocation, and mutations. Techniques and leading to important discoveries on DNA will be covered. Prerequisite: BIOL 206
3 lecture hours; 1 three-hour laboratory period; 4 semester hours

**Biology 444**
**Toxicology**
Pharmacology studies the effect(s) of drugs on living organisms. Toxicology is the study of adverse effects induced by exogenous and endogenous physical and chemical agents, including therapeutic agents. The pharmacokinetics (toxicokinetics) - pharmacodynamics (toxicodynamics), of certain classes of drugs and toxic agents, and their effect, at the molecular, cellular and organ level will be covered. The student will be introduced to all aspects of toxicology including forensic toxicology. Prerequisite: CHEM 206 and BIOL 211.
3 lecture hours; 3 semester hours; 1-3 Laboratory hours

**Biology 470**
**Field Work**
Practical field experience in the collection, identification, and preservation of various animal or plant groups. The actual title to vary with the organisms or area investigated. Prerequisite: Permission of the instructor; field work by arrangement.
1-4 semester hours

**Biology 480**
**Selected Topics**
Modern courses in diverse areas of faculty specialization within the biological sciences. Prerequisites to vary with the course and instructor; permission of the instructor required.
1-4 semester hours

**Biology 490**
**Seminar**
A series of intermediate level seminars delivered by specialists and concerned with varying aspects of a selected topic area. Prerequisite: Permission of the moderator.
1-3 semester hours

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**Biomedical Engineering**

**Biomedical Engineering/Electrical Engineering 410**
**Bio Sensors**
This course will provide an interview of biosensors, including their use in Pharmaceutical research, diagnostic testing, and policing the environment. Topics include the sensitivity, resolution, selectivity, dynamic range, and noise of biosensors. Other topics covered include transducer phenomenology, biosensor structure, and sensor performance.
3 lecture hours; 3 semester hours

**Biomedical Engineering/Electrical Engineering 443**
**Digital Signal Processing**
3 lecture hours; 3 semester hours

**Biomedical Engineering/Computer Engineering / Electrical Engineering 446**
**MEMS (Micro-Electro-Mechanical Systems)**
Basic micro fabrication techniques, MEMS materials and their properties, MEMS device design and simulation, MEMS packaging and assembly, signal testing and MEMS reliability analysis. MEMS industrial applications in various areas will also be discussed. Students used ANSYS FEM software to design and simulate their behavior.
3 lecture hours, 3 semester hours

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**Business Administration**

**Business Administration 200**
**Co-op Work Experience**
A paid work experience related to the student's major. Faculty approval required.
0-1 semester hours

**Business Administration 300**
**Philanthropy**
3 Semester hours

**Business Administration 382**
**Internship**
Field study of an organization in action. Students can fulfill the course requirements in one of three ways: a) to do an internship in an outside organization or one of the learning institutes within the College, and submit a paper with an analysis of their experiential learning; b) to write a case study with critical evaluation of an organization in action; or c) to develop a new business venture and submit a comprehensive business plan.

**Business Administration 395**
**Honors Thesis**
Students are expected to write and present a paper to the faculty which demonstrates evidence of research in a field of business studies. The paper should contain the following elements: a) the review of literature of business studies in the field; b) description of new trends of thought, practice and application in the field; the writer's own as-
Business Administration • Capstone Seminar • Chemistry

Capstone Seminar

CAPSTONE 390

Capstone Seminar
The Capstone Seminar is the culmination of learning in the Core Curriculum. As such, it reflectsively builds upon learning from the various liberal arts. The course is conducted as a seminar and thus requires substantial reading and informed participation. All students write an original essay that integrates themes raised in course readings and discussions. Prerequisite: Completion of at least 75 semester credit hours and fulfillment of all other Core requirements.

Chemistry

CHEMISTRY 101
Chemistry, Society and You
This course deals with chemistry and its effect on society with examples dealing with the environment, pollution, the energy crisis and the drug culture. Students examine both the investigative methods of chemistry and its interaction with public policy.
2 lecture periods; 1 discussion or two-hour laboratory period per week; 3 semester hours

CHEMISTRY 103
General Chemistry I
A study of basic chemical principles and their application. This course is designed for the science and engineering majors and includes theoretical and experimental studies of such topics as composition and structure of matter, stoichiometry, chemical reactions, chemical bonding, gases, atomic and molecular structure, and periodic trends. Prerequisites: 2 years high school mathematics or MATH 105.
3 lecture hours; 1 discussion period; 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 104
General Chemistry II
This course completes the sequence in general chemistry for science and engineering majors. Equilibrium, acids and bases, thermodynamics, nuclear chemistry, introductory organic chemistry. Prerequisites: CHEM 103, MATH 109 or MATH 110 (or 111) or equivalent.
3 lecture hours; 1 discussion period; 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 113
Introduction to Biochemistry
An introductory course in chemistry for liberal arts and pre-professional students who wish to broaden their general education or feel that their previous preparation was inadequate. Pre-med and science majors are strongly advised to take CHEM 103, although credits may be given for the CHEM 113, CHEM 103, and CHEM 104 sequence.
3 lecture hours; 1 two-hour laboratory or discussion period per week; 4 semester hours

CHEMISTRY 114
Introduction to Biochemistry
After a brief review of general chemistry and an introduction to organic chemistry, the chemistry and biochemistry of carbohydrates, fats, proteins, nucleic acids, vitamins, enzymes, and hormones are studied. Included is an introduction to diseases caused by metabolic disturbances and in-born errors of metabolism. Prerequisite: CHEM 113.
3 lecture periods; 1 two-hour laboratory period per week; 4 semester hours

CHEMISTRY 200
Chem./Co-op
Students who enter the Chem./Co-op Program take this course each semester they are on a paid work assignment with an employer. All work assignments must be approved by the Chemistry Co-op director. A report is required. Prerequisite: At least sophomore standing. 1 semester hour per work-semester to a maximum of 6 semester hours

CHEMISTRY 201
Principles of Chemical Analysis
An introduction to the physiochemical behavior of electrolytic solutions, and its application to chemical separations and analyses. Prerequisites: CHEM 103, CHEM 104.
3 lecture hours; 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 205
Organic Chemistry I
Study of aliphatic and aromatic compounds, synthesis, properties, and reaction mechanisms. Laboratory work in techniques, synthesis, properties and typical reactions. Prerequisites: CHEM 103, CHEM 104.
3 lecture hours; 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 206
Organic Chemistry II
Study of aliphatic and aromatic compounds, synthesis, properties and reaction mechanisms. Laboratory work in techniques, synthesis, properties and typical reactions. Prerequisites: CHEM 103, 104, CHEM 205.
3 lecture hours; 1 three-hour laboratory period; 4 semester hours; every semester 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 319, 320
Physical Chemistry I, II
Principles of Thermodynamics and structure of matter applied to homogeneous and heterogeneous equilibria, electrochemistry, reaction kinetics. Must be taken with Chemistry 321, 322 unless prior credit has been earned. Prerequisites: CHEM 202; MATH 215; PHYS 107, 108. Co-requisite: CHEM 205.
3 lecture hours; 6 semester hours

CHEMISTRY 321, 322
Physical Chemistry Laboratory I, II
Laboratory experiments in modern physical chemistry. Must be taken with Chemistry 319, 320 unless prior credit has been earned. Co-requisite: CHEM 319 for CHEM 321 and CHEM 320 for CHEM 322.
1 four-hour laboratory period; 4 semester hours

CHEMISTRY 351
Instrumental Analysis
The principles of physical chemistry are applied to chemical instrumentation, including the operation, capabilities, and limitations of various forms of chemical instrumentation. Spectrometry, spectrophotometry, chromatography, and electrical measurement methods are among the methods considered. Sample preparation and handling, electronics, computer controls, and the advantages and disadvantages of various detectors, sources, optical components, electronic variations are emphasized. Prerequisite: CHEM 320.
1 lecture hour; 2 three-hour laboratory
Chemistry • Cinema History • Computer Applications and Information Systems

Computer Engineering

periods; 3 semester hours; upon student demand

CHEMISTRY 355
Identification of Organic Compounds
Chemical and instrumental identification or organic compounds and separation of mixtures of compounds. Prerequisite: CHEM 206.
1 lecture hour; 2 three-hour laboratory periods; 3 semester hours

CHEMISTRY 358
Intermediate Inorganic Chemistry
Atomic and molecular structure and bonding; chemistry of the less familiar elements; compounds of unusual structure; coordination complexes and stereochemistry. Laboratory work includes special preparations and their assay. Prerequisites: CHEM 206, 319; Co-requisites: CHEM 320, 322.
3 lecture hours; 1 three-hour laboratory period; 4 semester hours

CHEMISTRY 365, 366
Biochemistry
The unifying and quantifying central concepts of biochemistry are studied by applying fundamental physiochemical principles of biological systems. Mechanisms and regulation of major metabolic pathways and structure and function of cellular elements on the molecular scale are covered in detail. Prerequisite: CHEM 206.
3 lecture hours; 1 three-hour laboratory period; 8 semester hours

CHEMISTRY 370
Organic Synthesis
Multisteps organic synthesis with emphasis on the structure and mechanism of the reactions involving carbon formation and functional group manipulations. The applications of modern spectroscopy in ascertaining structures of the reaction products with a view on the stereochemistry. Prerequisite: CHEM 205, 206 or equivalent.
3 semester hours

CHEMISTRY 394, 395
Chemical Research
Training in creative thinking, design of experiments, use of research literature. Choice of a laboratory research problem. Prerequisites: CHEM 319, 320, 321, 322 and permission of the instructor.
Semester hours arranged

CHEMISTRY 399
Independent Study
Opportunity for the student to pursue advanced individual study in his field of interest under the supervision of a specialist. Prerequisite: Permission of the instructor and the Department Chair.
Semester hours (1-6) arranged

Cinema History and Theory

CINEMA HISTORY 181
Introduction to Film Appreciation, Criticism and Analysis
An introduction to critical analysis and aesthetic appreciation of film, through lectures, discussions, readings, and screenings of dramatic, documentary and experimental films. The course, interdisciplinary in nature, explores various aspects of film style, the similarities and differences between film and other mediums of expression (including painting, music, theatre, and literature), and various functions of film — as art, entertainment, social statement, propaganda, education, and experiment. Core course in the Fine Arts.
4 periods; 3 semester hours

CINEMA HISTORY 262
Film History
4 periods; 3 semester hours

CINEMA HISTORY 361
American Film
A survey of major works in the American cinema emphasizing techniques, styles, and the film medium as an index of cultural and social change.
3 semester hours

Computer Applications and Information Systems (CAIS)

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 101
Statistics
This course covers basic statistics, including descriptive statistics, probability, discrete distributions, continuous distributions, sampling, and hypothesis testing. This course is required of all Business students. Prerequisite: Math 105 or Math placement exam at Math 109, or higher.
3 semester hours

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 102
Applied Statistics
This is a continuation of CAIS 101 and involves searching the Internet, downloading, and analysis of economic data. “Analysis of data” may also include problems from the former MS 110 (Linear Programming). This course is required of all Business students. Prerequisite: CAIS 101.
3 semester hours

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 191
Computer Concepts
This course provides elementary instruction in basic productivity packages, like Microsoft’s Office 97. It is for those students with no prior exposure to computer applications.
3 semester hours

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 201
Intro to CAIS
This course covers computer and systems hardware, operating systems, application development, the value of information, databases, networks, and their integration and management within the modern firm. This course is required of all Business students. Prerequisite: CAIS 102.
3 semester hours

Computer Engineering

COMPUTER ENGINEERING 200
Undergraduate Co-op/Internship in Computer Engineering
By arrangement.
1-3 semester hours

COMPUTER ENGINEERING 210
Digital Design I
Basic digital design principles. Boolean algebra. Combinational logic design with gates, MSI, LSI. Sequential logic design; register, counters, memory and programmable logic. Prerequisite: Mathematical sophistication.
3 semester hours

COMPUTER ENGINEERING 286
Introduction to Microprocessors
Theory and application of microprocessors, and associated peripheral devices such as
memory, ports, clocks, system design and debugging techniques, including specific design problems using existing devices. Programming aids, including assemblers and simulators. Programming problems including peripheral device service routines and arithmetic operations. Information structures for real-time data acquisition systems. Prerequisite: Computer Engineering 210 and Computer Science 102.

3 semester hours

COMPUTER ENGINEERING 312
Computer Organization
Organization of computer systems. Central processing unit; micro programmed control; input/output organization; interrupts; traps; direct memory access; arithmetic operations; main memory. Prerequisite: Computer Engineering 315.

3 semester hours

COMPUTER ENGINEERING 315
Digital Design II with Laboratory
Design of complex digital systems; top-down design and modularization. Implementation of controllers. Use of hardware design languages (VHDL) to implement systems. Rapid prototyping. Fault tolerant design. Prerequisite: Computer Engineering 210. Laboratory includes implementation of digital systems using FPGAs.

3 lecture hours; 4 semester hours; 1 three-hour laboratory

COMPUTER ENGINEERING 387
Embedded System Design
Design of systems having major hardware and software components. Software implementations are used to control specific hardware such as micro controllers. Major laboratory emphasis to realize embedded systems. Prerequisite: Computer Engineering 286.

3 semester hours

COMPUTER ENGINEERING 399
Independent Study in Computer Engineering
Independent study of advanced topics in Computer Engineering and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

Open only to qualified seniors

3 semester hour

COMPUTER ENGINEERING 408
Operating Systems
Structure and design of computer operating systems. Synchronization of processes; deadlock avoidance; CPU management; file management; memory management; and device management. Prerequisite: Computer Science 102, Computer Engineering 312.

3 semester hours

COMPUTER ENGINEERING 410
Introduction to Computer Architecture
Instruction set, data path and controller design for computers. Design and analysis of a RISC processor including integer and floating point pipeline design. Cache and virtual memory design, interrupts and DMA. Prerequisite: Computer Engineering 312 or equivalent background.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING ( CPEG 446/ELEG 446)
MEMS (Micro-Electro-Mechanical Systems)
Basic micro fabrication techniques, MEMS materials and their properties, MEMS device design and simulation, MEMS packaging and assembly, signal testing and MEMS reliability analysis. MEMS industrial applications in various areas will also be discussed. Students used ANSYS FEM software to design and simulate their behavior.

COMPUTER ENGINEERING 447
Logic Synthesis Using FPGAs
Logic design using textual design entry, VHDL Behavioral, structural and data flow descriptions. Technology-dependent vs. technology-independent design. CPLD, SEAM and antifuse technologies. Rapid prototyping and retargeting designs. A major design project.

Prerequisite: Computer Engineering 315.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 448
Introduction to VLSI Design
Design and implementation of a very large scale integrated circuits. CMOS and BiCMOS technologies, basic topological structure of ICs, clocking characteristics, resistance, capacitance and power estimation, system-level design and implementation issues. Custom layout and verification using CAD tools. Synthesis of designs from VHDL descriptions. Term project will include the design and testing of an integrated circuit. Prerequisites: Computer Engineering 315 and Electrical Engineering 348.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 449 A
Senior Project
Major open-ended design project to integrate student's knowledge of hardware and software. Formulation of design specifications, use of design tools, feasibility considerations. Prerequisites: Computer Engineering 312, 387, Engineering 300, English 204, Integrated Studies C101 and senior status.

1 semester hours

COMPUTER ENGINEERING 449 B
Senior Project
Major open-ended design project to integrate student's knowledge of hardware and software. Formulation of design specifications, use of design tools, feasibility considerations. Prerequisites: Computer Engineering 312, 387, Engineering 300, English 204, Integrated Studies C101 and senior status.

3 semester hours

COMPUTER ENGINEERING 457
Electronic Design Using Programmable Analog Arrays
Use of design methodologies to implement analog circuits using programmable analog arrays. Introduction to design tools for circuit implementation. Laboratory experience includes design of analog filters, photoplethysmography, a non-invasive method of measuring blood pulsations, temperature measurements with PWM fan control, motor control using PID controllers, among others. Design tools include MatLab and design tools from Anadigm, Inc. (schematic capture and simulation)

COMPUTER ENGINEERING (CPEG 459/ELEG 458)
Analog VLSI
Modeling, design and analysis of analog VLSI circuits. CMOS processing and layout, current mirrors, Opamp, comparators, S/H voltage references, switched-capacitor circuits, data converters, filters and PLLs. Students design analog VLSI layouts, extract the netlists and simulate the circuit behavior. Transistor sizing will also be discussed. EDA tools PSPICE, Mentor Graphics are used.

COMPUTER ENGINEERING 460
Introduction to Robotics
Basic robotics, including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipul-
lators, automation, and robot programming languages are also investigated. Prerequisites: CS 102, Electrical Engineering 360, Math 214 or Math 314 or permission of instructor.

3 semester hours

COMPUTER ENGINEERING 471
Data and Computer Communications

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 472
Computer Networks
Introduction to computer networks. Circuits, message, packet and cell switching. WAN and LAN design issues. LAN standards. Network layer design issues. Routing and congestion control. Inter-networking ISDN, B-ISDN, and ATM. Transport layer design issues and protocols. Application layer design issues and protocols. Examples of protocol suites and networks. Prerequisite: Computer Engineering 471 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 473
Local Area Networks

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 481
Mobile Communications
This course covers the basic technologies in the field of wireless and mobile communications. The following topics are covered in the course: wireless transmission, media access control, satellite systems, broadcast systems, wireless LANs, wireless ATM, network layer protocols, transport protocols and support for mobility. Pre-requisites: Computer Engineering 471 or Computer Engineering 472 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 482
Network Administration

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 489
Software Engineering
Structural development and methodology for large software systems. Planning requirements, design, test and validation. Advanced topics in software development. Prerequisites: Computer Science 102 and senior status.

3 semester hours

Computer Science

COMPUTER SCIENCE 101
Introduction to Computing I
Introduction to high level languages, data types, subprograms; arrays and records. Topdown programming. Algorithmic development and flow charting.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 102
Introduction to Computing II
Introduction to data structures. Top-down design and structured programming, debugging. String processing, stacks, queues, lists, linked lists, trees, hash tables. Searching and sorting. Prerequisite: CPSC 101.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 102A
Introduction to Computing II Lab
This is an accompanying laboratory to the Computer Science 102 course. Students will do supervised work on assigned laboratory projects. In addition, some sessions may be used to cover new or review CPSC 102 lecture material as well as to administer CPSC 102 examinations. Students must take CPSC 102 con-currently. Pre-requisite: CPSC 101 and CPSC 101a. Co-requisite: CS 102.

2 lecture hours; 1 semester hours

COMPUTER SCIENCE 200
Undergraduate Co-op/Internship in Computer Science
By arrangement.
1-3 semester hours

COMPUTER SCIENCE 201
Data and File Structures
Advanced treatment of data structures and file structures including manipulating data stored in the file systems. Topics include fundamentals of file processing operations, secondary storage characteristics, and managing files of records. Additional topics will include performance file organization, sorting large files, multi-level indexing, 2-3 Trees, B-Trees, and Hashing and Extendable Hashing. Pre-requisites: CPSC102 and CPSC 102a.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 203
Second Language Course
A class for computer science majors to broaden the programming background. Students will take a course in a language other than the current teaching language. This class is not an actual course, but a number of departmental course offerings may satisfy this requirement. Courses which may be taken will include computer science offerings which assume programming competency (CPSC 101 and CPSC 102 equivalent) in the instructional language. The department will announce courses which qualify for satisfaction of CPSC 203 requirement. Pre-requisites: CPSC 102 and CPSC 102a.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 227
Discrete Structures
This course is an introduction to some of the discrete mathematical structures relevant to
Computer Science

Computer science, including set theory, propositional calculus, predicate calculus, algebraic operations and relations, counting techniques, and graph theory. Prerequisite: MATH 109. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 300
Economics and Management of Computing Projects
The design process, engineering economics, project planning and ethics in engineering practice. A required course for all Computer Science Majors, normally taken in the junior year, offered both semesters. Prerequisites: CPSC 102, 102a, MATH 215, PHYS112 and junior standing. 3 lecture hours, 3 semester hours.

COMPUTER SCIENCE 301
Programming Languages
This is a second computer language course organized around the concepts of data objects, data types, abstraction mechanisms, sequence and data control, storage management, syntax, and operating environments. Several widely used programming languages are analyzed to illustrate these concepts. Pre-requisite: CPSC 201. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 306
Compiler Design
Introduction to compiler design. Major parts of a compiler, lexical, syntactic, and semantic analysis. Introductory language theory. Code optimization techniques. Examples of modern compilers. Prerequisite: CPSC 201, 227. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 311
Computer Architecture
Introduction, Processing Unit Design, Memory System Design, Input-Output Design and Organization, Pipelining, reduced Instruction Set Computers (RISCs), Introduction to Multiprocessors, Shared Memory Architectures, Parallel Algorithms and Programming, Other Computational Paradigms. Pre-requisites: CPEG 210, CPEG 286. 3 lecture hours, 3 semester hours.

COMPUTER SCIENCE 320
Theory of Computation
Elements of the theory of formal languages, grammars, finite state machines, computability, primitive recursive functions, Turing machines and computation. Prerequisite: CPSC 227. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 325
Structure and Interpretation of Computer Programs
Procedures and data both primitive and compound. Iteration and recursion. Abstraction of data and procedures. Sequences and trees. Manipulation of lists. Data-directed programming, dispatch on type, message passing. Object-oriented programming, Local state and environment diagrams. Streams. Prerequisite: CPSC 201. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 329
Fundamentals of Algorithms
This course aims to develop an understanding of the process by which an algorithm is developed to solve a problem and how it is translated into a working computer program. Emphasis is placed on problem-solving approaches and efficient programming techniques. Topics covered are: data structures, stacks, lists, trees, search algorithms, introduction to parsing and sorting techniques; structures programming; interactive and recursive programming, analysis of algorithms and special purpose algorithms. Prerequisite: CPSC 201, 227. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 340
Queuing Theory
Important probability distributions, Markov chains, Poisson process, birth-and-death process, queuing theory, queuing models of computer systems. Prerequisite: CPSC 320, MATH 323. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 341/MATHEMATICS 341
Operations Research
Linear programming formulation of optimization problems, hyper planes, convex sets, linear independence, bases of vector spaces, matrix inversion, theory and computation techniques of simple. revised simplex methods, degeneracy, duality, Transportation and assignment problems, integer programming and network flows. Prerequisite: Computer Science 320, “C” or better in MATH 323. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 349
Independent Study in Computer Science
Independent study of advanced topics in Computer Science and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair. Open only to qualified seniors. 3 semester hours

COMPUTER SCIENCE 400
Object-Oriented Programming Using C++
This course introduces the modern object-oriented programming philosophy using C++ to the beginning graduate students. The emphasis is on developing the programming thought process in terms of objects and their interactions to each other. Concepts covered include data hiding, code reuse through inheritance, polymorphism, templates, exception handling, developing appropriate class hierarchy, and code maintenance for large software projects. Prerequisites: CPSC 102 or equivalent background. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 410
Java Programming
Object oriented programming, using Java, packages, interfaces, multi-threading, classes, inheritance, exceptions, interfaces, native methods, applets. Prerequisite: CPSC 400 or permission of instructor. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 411
Advanced Object-Oriented Programming with Java
Covered topics include advanced features of Java, such as Database inter- connectivity (JDBC) with Servlets and JSP, remote method interface (RMI), distributed applications objects using CORBA and JNDI, Java Beans, introspection and reflection, Enterprise Java applications with EJB, interfacing Java to C++ with JNI, and additional advanced topics. A focus on developing components and packages. A major project is developed. Prerequisite: CPSC 410. 3 lecture hours; 3 semester hours

COMPUTER SCIENCE 435
Unix System Programming
Introduction to shell programming and system programming languages in the Unix environment. Files, directories, filters, processors, queues, semaphores. A major project focuses information towards a particular application. Prerequisite: CPSC 400. 3 lecture hours; 3 semester hours
314, or permission of instructor.

**COMPUTER SCIENCE 485**

**Software Design Patterns**

Introduce design patterns and software architectures. Combines pattern theory with examples to show why and when to use patterns and how to implement them. How to apply design patterns at the enterprise level.

The use of design patterns to design and implement systems of high stability and quality. Compare and contrast patterns, including differences between Mediator and Façade. Discuss relationships between patterns. Study how patterns are collaborated within domains to solve complicated problems.

3 semester hours

**DENTAL HYGIENE 129**

**Clinical Practice I**

Introduction to the role and function of the Dental Hygienist in preventive dentistry; history and ethics of the Dental Hygiene profession; relationship of general and oral health to the disease process. Clinical hours devoted to development of infection control procedures, oral self care, basic clinical skills of patient assessment/data collection, basic instrumentation, patient education and dental emergencies.

3 lecture hours; 7 clinical hours; 4 semester hours

**DENTAL HYGIENE 130**

**Clinical Practice II**

This course is a continuation of Clinical Practice I and focuses on the role of the Dental Hygienist as a preventive oral health specialist. Didactic and clinical experience is devoted to patient assessment, treatment planning, patient management, fluoride therapy, emergency response protocols, and continuing development of clinical skills to facilitate ethical and total patient care. Prerequisite: Successful completion of DHYG123, DHYG124 and DHYG 129.

2 lecture hours; 8 clinical hours; 4 semester hours

**DENTAL HYGIENE 140**

**Introduction to Periodontology**

This course provides the basic principles of periodontology, which covers the recognition of clinical characteristics of the periodontium, classification of periodontal diseases, role of microorganisms and local factors in the etiology of periodontal diseases.

1 semester hours

**DENTAL HYGIENE NUTRITION 204**

**Nutritional Biochemistry**

This course will teach the basic principles of the science of human nutrition and nutritional biochemistry with an emphasis on the effects of nutrition on dental health. The focus will be on the roles of micro- and macronutrients and the importance of proper energy balance, digestion, absorption and metabolism of these
Dental Hygiene

DENTAL HYGIENE 227 Clinical Practice II

This course provides students the opportunity to expand on the basic dental hygiene skills learned in Clinical Practice I and II (DHYG 129 and 130) providing students with a practical and treatment-oriented study of the oral manifestations of systemic diseases. Students will learn advanced instrumentation techniques and deliver comprehensive dental hygiene services in the Fones Dental Hygiene Health Center as well as in the community setting. The community setting will provide the students the opportunity to interact with a variety of patient populations. Evidence-based decision making will be a common theme throughout the semester. The student will utilize the dental hygiene process of care by assessing clinical information and external research to implement and evaluate the dental hygiene treatment care plan; applying the ADHA Standards of Clinical Dental Hygiene Practice. Prerequisite: Successful completion of all first-year required courses. 2 lecture hours, 14-21 clinical hours per week, 5 semester hours

DENTAL HYGIENE 228 Clinical Practice IV

Continuation of advanced didactic and clinical practices of Dental Hygiene 227. This course will assist the student in refining competence in all clinical procedures, developing variety of experiences of oral health and disease, and assimilate knowledge in order to use responsible decision-making and critical analysis that assures the health of the patient. The student will be introduced to professional ethics and dental jurisprudence, professional organizations, professional goals, state dental practice acts, and issues facing the dental hygiene profession. The student will expand self-assessment skills and evaluation of scientific literature as the basis for lifetime learning. Prerequisite: Successful completion of DHYG 227, 230, 233, 241, 250. 2 lecture hours, 14-21 clinical hours per week, 5 semester hours

DENTAL HYGIENE 230 Local Anesthesia

DHYG 230 Local Anesthesia for the Fones Dental Hygiene Students. This course is designed to prepare the student dental hygienist to qualify to administer local anesthesia and receive a certificate in local anesthesia acceptable in the State of Connecticut. The student will be introduced to safe, effective administration of local anesthesia through lecture, laboratory and clinical settings. The comprehensive content areas will include rational for pain management, client management, medical emergencies and review of essential anatomy, physiology, and pharmacology of pain control agents. In addition, the student will perform efficient techniques of pain management through local anesthesia on clinical partners under the direct supervision of clinical faculty. 1 semester hour

DENTAL HYGIENE 232 Dental Public Health

Dental Public Health consists of didactic and field work components in community services. It is designed to enable Dental Hygiene students to identify Dental Hygiene career opportunities within the public health setting; describe the structure and function of public health; explain federal, state and local legislation, policies and procedures pertaining to public health; assess the dental needs and demands of the public including special populations; and plan and evaluate dental health care programming. Prerequisite: Successful completion of all first year required courses. 2 lecture hours, 72 hours of field experience per rotation, 4 semester hours

DENTAL HYGIENE 233 Oral and General Histo-Pathology

This course will provide the dental hygienist with an in-depth discussion of various types of oral diseases of the hard and soft tissues. Emphasis will be placed on the etiology, clinical picture, radiographic picture, histologic/microscopic findings, pathogenesis, treatment and prognosis for each condition discussed. Some systemic conditions with specific oral findings will also be covered. Prerequisite: Successful completion of all first year required courses. 3 semester hours

DENTAL HYGIENE 241 Periodontology

This course expands on the basic principles of periodontology introduced during the first year Dental Hygiene curriculum. Students receive a sound foundation in the history and management of periodontal diseases including the etiology and pathogenesis of periodontal diseases, the systemic disease connection with periodontal disease, the role of the immune system in the disease process and the various periodontal treatment modalities available with emphasis on the Dental Hygiene treatment plan. Prerequisite: Successful completion of DHYG 140. 2 semester hours

DENTAL HYGIENE 250 Dental Materials

This course provides didactic and clinical information relating to dental materials utilized in the dental office. Content includes: terminology, basic principles, properties of materials, techniques and procedures, recognition of restorations and indications for their use. Students will also gain exposure to expanded auxiliary utilization, and the role of the Dental Hygienist in specialty practice. Prerequisite: Successful completion of all required first year Dental Hygiene courses. 2 lecture hours, 1 two-hour laboratory period, 3 semester hours

DENTAL HYGIENE 299 Dental Hygiene Independent Study

Selected independent projects conducted under the supervision of a Dental Hygiene faculty member. 1-6 semester hours

DENTAL HYGIENE 301 Dental Hygiene Practice Management

Through discussion of legal, regulatory, and ethical issues governing dental healthcare, the student will develop strategies to provide optimum client care and understand the Dental Hygienist role within an interdisciplinary healthcare team. Appreciation for the role of administrator / manager is obtained through lecture content and group activities focused on the development of communication, teamwork, personnel, business, and patient management skills. These skills are necessary to prepare for emerging practice models in dental healthcare. 3 Semester hours

DENTAL HYGIENE 302 Instructional Strategies for the Health Professional

Assessment, planning, implementation and
Dental Hygiene • Economics • Education

evaluation of various instructional methodologies/strategies to facilitate presentations. Fundamentals of instructional theory with practical skill applications.

2 lecture hours; two-hour observation/presentation; 3 semester hours

DENTAL HYGIENE 303
Advanced Clinical Concepts
Advanced Clinical Concepts expands upon the basic knowledge and skills utilized in the dental hygiene process of care. Students are introduced to advanced clinical concepts through evidence based practice methods. Oral medicine, advanced periodontology, pain management, and current research and technologies are emphasized.

DENTAL HYGIENE 304
Dental Hygiene Internship
This course will provide the Dental Hygiene student with the opportunity to apply the knowledge and skills acquired throughout the dental hygiene curriculum in an internship experience. Under the guidance of the course instructor the dental hygiene student intern will select a field site in an alternative practice setting (not private practice). With the help of the site’s primary mentor the intern will set goals and objectives that will allow them to become an integral member of the organization. The internship will consist of direct observation, participation and supervised teaching or fieldwork. Prerequisite: DHYG 302.

By arrangement; 3-6 semester hours

DENTAL HYGIENE 305
Dental Hygiene Research I
This course will introduce the student to the fundamentals of research design and process. It will enable Dental Hygiene students to develop skills in the analysis of dental research findings and the evaluation of dental issues through critical analysis. Students will also gain exposure to the development of research protocols and develop an original research proposal. Prerequisite: DHYG 302

3 semester hours

DENTAL HYGIENE 306
Dental Hygiene Research II
This course is designed to familiarize Dental Hygiene students with evolving professional trends related to private or public practice. Students, working in groups of two or three, will utilize and reinforce acquired Dental Hygiene research concepts while developing advanced assessment, planning implementation and evaluation skills, original research will be implemented. Required of all candidates for a Bachelor of Science degree in Dental Hygiene. Prerequisite: DHYG 302, DHYG 305 and senior status.

4 semester hours

DENTAL HYGIENE 400
Statistical Reasoning
This course will provide a basic overview of statistical analysis and how certain tests can be performed to determine if there is a statistically significant relationship between variables. The student will receive an introduction to the use of statistical software for data analysis.

3 semester hours

Economics

ECONOMICS 201
Principles of Economics I — Macro
Analysis of basic concepts; national income, employment, monetary and fiscal policy and economic growth.

3 semester hours

ECONOMICS 202
Principles of Economics II — Micro
An analysis of price, output, income distribution, market structures and international trade.

3 semester hours

ECONOMICS 311
Managerial Economics
The theoretical analysis of the behavior of the consumer and the firm. Problems of income distribution, welfare economics, and general equilibrium analysis. Prerequisites: ECON 201 and ECON 202; junior or senior status.

3 semester hours

ECONOMICS 375
International Business Economics
A basic model of the international economy. International macroeconomic theory is examined using a set of economic flow diagrams. Examination of issues including interest rates, exchange rates and asset prices in the global economy; causes and consequences of trade deficits; effects of monetary policy; debate on IMF and World Bank reform; globalization of financial markets; Intensive use of the Web and Internet resources to retrieve and analyze data. Prerequisites: ECON 201 and ECON 202; junior or senior status.

3 semester hours

ECONOMICS 376
Business Forecasting
Macroeconomic forecasting to improve asset allocation and investment performance over the business cycle. Examining and forecasting the behavior of stock, bond, commodity and currency prices. Forecasting tools to analyze the economy and forecast price movements in the financial markets. Prerequisites: ECON 201 and ECON 202; junior or senior status.

3 semester hours

Education

EDUCATION 337
Teaching the Special Needs Students
This course is designed to provide educators with the understanding of the development of exceptional students and the methods of identifying, diagnosing, and prescribing the activities for teaching such students in regular classrooms. This course in special education satisfies the state’s requirement for Certification and includes the major categories of exceptionality e.g., the learning disabled, the handicapped, the gifted, etc.

3 semester hours

EDUCATION 399
Independent Study in Education
This is an opportunity to do independent and individualized study of topics not a part of the regular program offerings or to a degree beyond normal requirements. Students confer with assigned faculty supervisor and may meet in seminar with other independent study participants.

EDUCATION 399C Elementary Education
EDUCATION 399J Secondary Education

Permission of Department Chair is required

1 6 semester hours

EDUCATION 450
Field Experience
This course is a structured observation in a public school. The goals of the course are to facilitate the students’ awareness of self, of school pupils, and of prospective teachers. Course can serve as an elective for other majors. The number of credits taken should be determined with the student’s advisor. Required prior to student teaching.

1 6 semester hours
### Electrical Engineering

#### Undergraduate seniors may take graduate courses (400 level) with permission of their advisor.

**ELECTRICAL ENGINEERING 233**  
Network Analysis I  
3 semester hours  

**ELECTRICAL ENGINEERING 234**  
Network Analysis II  
3 semester hours  

**ELECTRICAL ENGINEERING 235**  
Network Analysis I Lab  
Use of resistor networks and DC voltage sources in various configurations; measurements of current flow and voltage difference. Introduction to RLC circuits in steady AC conditions. Familiarization with standard laboratory instruments. Co-requisite: ELEG 233.  
1 three-hour laboratory, 1 semester hour  

**ELECTRICAL ENGINEERING 236**  
Network Analysis II Lab  
Steady state and transient analysis of RLC circuits. Typical series and parallel resonance circuits are examined and their parameters experimentally determined; two pole network analysis; transformers; frequency response plots. Extensive use of the oscilloscope. Pre-requisite: ELEG 235. Co-requisite: ELEG 234.  
1 three-hour laboratory, 1 semester hour  

**ELECTRICAL ENGINEERING 333**  
Signal and Systems  
Students learn to analyze theoretically and by computer both continuous and discrete signals and the application of each to real-world problems. Applications involve the definition of a system, defined either by a laplace or z-transform and the output of same to the application of any input signal.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 348**  
Electronics  
Application of diodes, bipolar transistors (BJT) and field effect transistors (FET) to signal amplification and switching. Computer Simulation. Pre-requisite: ELEG 233, Pre-requisite: ELEG 235.  
3 semester hours, 3 semester hours  

**ELECTRICAL ENGINEERING 349**  
Senior Project  
Student work for approximately 150 hours performing research work within the department of Electrical Engineering. Emphasis is on good technical writing and imaginative design of solutions to a given problem.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 399**  
Independent Study in Electrical Engineering  
Independent study of advanced topics in Electrical Engineering. Problem assignment to be arranged with and approved by the department.  
3 semester hours  

**ELECTRICAL ENGINEERING 403**  
RF VLSI  
The course covers fundamental concepts of RF circuit design. Students will learn circuit level design of high speed analog/RF circuits. Specific topics include impact of scaling and noise in high-speed communication circuits, low noise amplifiers, mixers, power amplifiers and frequency synthesizers.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 404**  
Digital VLSI  
The objective of this course is to teach students the CMOS transistor design in VLSI circuits. (CMOS stands for complementary metal-oxide semiconductor.) Supported by CAD tools, students will learn gate level design, IC design, fabrication, and layout of digital CMOS integrated circuits. With these skills, students will also be able to interact with integrated circuit fabrication process engineers after completing this course.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 405**  
Statistics for Engineers  
From elements of probability, probability distributions and descriptive statistics to hypothesis testing, confidence intervals, linear regression and correlation, analysis of variance and engineering applications to include quality control.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING (ELEG/CPSC 406)**  
Soft Computing I  
Modeling and solving engineering problems using computational methods. Topics include exact (provable) methods (linear and convex programming) and fast methods (heuristic search, genetic algorithm, neural networks, etc.).  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 410 (ELEG 410/BMEG 410)**  
Bio Sensors  
This course will provide an introduction of biosensors, including their use in Pharmaceutical research, diagnostic testing, and policing the environment. Topics include the sensitivity, resolution, selectivity, dynamic range, and noise of biosensors. Other topics covered include transducer phenomenology, biosensor structure, and sensor performance.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 411**  
Advanced PLC’s (Programmable Logic Controls)  
This course builds on PLCs (ELEG 464) by using sensors (both thermal sensors, motion sensors, and camera input) to control the automation process; topics in servo motors, variable frequency drives, and HMI (human machine interaction) and touch screens are also introduced both in theory and in a lab setting.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 413 (ELEG 413/CPSC 413)**  
Bioinformatics  
The course covers algorithmic aspects of modern DNA and protein analysis. Topics include: (i) Reviews of DNA, RNA and Proteins, (ii) Genome rearrangements, (iii) Sequence Alignment and fast algorithms (BLAST), (iv) Genome expressions and DNA-microarray, (v) Phylogenetic trees, (vi) Protein docking and drug discovery, etc.  
3 lecture hours, 3 semester hours  

**ELECTRICAL ENGINEERING 415**  
Fiber Optics  
3 lecture hours, 3 semester hours
Electrical Engineering

ELECTRICAL ENGINEERING 416
Fiber Optics Lab
Hands on experience with fiber optic hardware. Fiber properties, sources, detectors, splices, connectors. Design and test fiber optic transmission and receiver circuits for both analog and digital transmission. Pre-requisite: ELEG 415.
3 semester hours

ELECTRICAL ENGINEERING 417
Modern Electronics
See ELEG 348.

ELECTRICAL ENGINEERING 428 (ELEG 428/BMEG 428)
Wireless Communications
Evolution of Mobile Radio Communications to cell phones and personal communications: 2nd and 3rd and 4th generation. Concepts include cell fundamentals, path loss, fading, ghosts, modulation techniques, equalization, speech coding and networks.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 430
Satellite/Wireless Communication Systems
Detailing concepts and calculations from the entire field is enough to permit the kinds of analysis needed for major systems planning decisions. This course covers channel capacity, picture quality, signal to noise ratio, bit error rate, earth station antenna size and offers new materials on orbital mechanics and geometry. Pre-requisite: ELEG 441 or equivalent.
3 semester hours; 3 semester hours

ELECTRICAL ENGINEERING 431
Fields and Waves
Solutions of static electric and magnetic fields are derived from Maxwell’s equations and Gauss’s law. Approximation, including multiple modelling, are used where exact solutions to theory do not exist. Also, the computer is used to solve these problems exactly without approximations. The course also introduces time varying fields and their link to the creation and propagation of radiation.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 437
Microwaves
Passive and Active elements for the generation, modulation, amplification and reception of microwaves. Radar and other microwaves systems. Pre-requisite: Field Theory.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 439
Radar Theory and Simulation
Radar Fundamentals, Radar Cross Section, Types of Radars, Radar Detection, Waveform Analysis, SNR, Compression and Wave Propagation, Target Indicator and Tracking. The course will include extensive use of MATLAB for programming and simulation.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 440
Distribution Power System Design
A comprehensive study of modeling of the distribution of power system components and planning, including load characteristics, application of power transformers, design of transmission lines, distribution sub-stations, primary systems and secondary systems, voltage drop and power loss calculations, application of capacitors, harmonics on distribution systems, voltage regulation, fault calculation and protection.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 441
Analog Communications
Spectral analysis; modulation and demodulation system analysis, including AM, FM, pulse modulation and transmission of digital information. Signal design and system considerations. Pre-requisite: ELEG 234.
3 semester hours

ELECTRICAL ENGINEERING 442
Digital Communications
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 443 (ELEG 443/BIOMD 443)
Digital Signal Processing
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 444
Power Electronics
Application of power diodes and power transistors in rectifier arrangements and voltage regulators. Properties and application in power converters, inverters and motor drives. Pre-requisite: ELEG 348.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 445
DC Motor Drives
Application to control speed and efficiency of motors using conventional thyristors control as well as modern variable frequency drives.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 446 (ELEG 446/BMEG 446/CPEG 446)
MEMS (Micro-Electro-Mechanical Systems).
Basic micro fabrication techniques, MEMS materials and their properties, MEMS device design and simulation, MEMS packaging and assembly, signal testing and MEMS reliability analysis. MEMS industrial applications in various areas will also be discussed. Students used ANSYS FEM software to design and simulate their behavior.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 447
Semiconductors.
Crystal fabrication: MBE, MOCVD, LEC, Bridgeman. Study material and electronic properties of single crystal Si, poly, a-Si, GaAs, GaN, SiC, Ge and II-VI compounds. Transport properties: Hall, Peltier, resistivity, mobility. Analysis of capacitance and I/V data for pn, pin, schottky and hetero-junction devices. Pre-requisite: MATH 110.
3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 448
Microelectronic Fabrication
This class covers basic microfabrication processes for semiconductor and VLSI fabrication, including photolithography, plasma and reactive ion etching, ion implantation, diffusion, oxidation, evaporation, vapor phase epitaxial growth, sputtering, and CVD. Advanced processing topics such as next generation lithography, MBE, and metal organic CVD are also introduced. The physics and chemistry of each process are introduced along with descriptions of the equipment used for the manufacture of integrated circuits. The integration of microfabrication process into CMOS, bipolar, and MEMS technologies are also discussed. The purpose of this course is to provide students with technical background and knowledge in silicon microelectronic fabrication process. Upon finishing this course, students will be familiar with the basic semiconductor and VLSI microfabrication processes.
3 lecture hours, 3 semester hours
ELECTRICAL ENGINEERING 449
Introduction to Wireless Sensor Networks
In recent years, tiny computing devices equipped with low-power radios and sensors—made possible due to advances in micro-electronics and radio technologies—have obliterated the wall between the physical world and the cyber world, spawning a virtually unlimited number of new applications—some of them beyond our wildest imaginations. Successful design of these massively distributed wireless sensor networks requires a synergistic combination of multiple aspects: from the physical layer to decision algorithms and more. This course will introduce the students to the application areas, various challenges commonly faced in this application, state-of-the-art solution techniques and fundamental those have emerged in the recent years.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 451
Introduction to Nanotechnology
Nanotechnology is the science and engineering involved in the design, synthesis, characterization and application of materials and devices with the size in nanometer (10^-9m) scale. As a newly emerged exciting high-technology, it has attracted intensive interest and heavy investments around the world. Nanotechnology is a general-purpose technology which will have significant impact on almost all industries and all areas of society. It can offer better, longer lasting, cleaner, safer and smarter products for home, communications, medicine, transportation, agriculture and many other fields. This course will cover basic concepts in nanoscience and nanotechnology.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 453
Pattern Recognition
Operation and Design of systems that recognize patterns in data, based primarily on statistical and neural network approaches. Topics include Bayesian decision theory, Parametric likelihood estimation, Nonparametric techniques, Linear discriminant functions and Neural Networks.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 454
Introduction to Audio Signal Processing
To introduce the fundamentals of speech processing and related applications. Course covers speech enhancement, speech coding, and speech recognition.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 456
Adaptive Signal Processing
This course introduces students to the field of adaptive signal processing as well as several practical aspects of adaptive systems. This course provides an in-depth analysis of various adaptation algorithms such as least mean square adaptive filters, recursive least squares algorithms, and Kalman filters etc. The subject learning is enhanced through experimentation of adaptation techniques using Matlab and/or Labview projects centered on applications such as adaptive noise/interference cancellation, signal estimation/detection, and system identification etc.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 458 (ELEG 458/CPSC 458)
Analog VLSI
Modeling, design and analysis of analog VLSI circuits. CMOS processing and layout, current mirrors, Opamp, comparators, S/H voltage references, switched-capacitor circuits, data converters, filters and PLLs. Students design analog VLSI layouts, extract the netlists and simulate the circuit behavior. Transistors sizing will also be discussed. EDA tools PSPICE, Mentors Graphics are used.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 459
Audio Processing Lab
Introduction to TMS320C55x Digital signal Processor, Audio Signal Processing, Basic Principles of Audio Coding, Speech Enhancement Techniques, Quantization of Audio signals, Calculating LPC coefficient using C55x Intrinsic, Matlab Implementations of noise Reduction (NR), Mixed C55x Assembly and Intrinsic Implementations of Voice Activity Detection (VAD), Combining AEC with NR, Voice over Internet Protocol Applications, Overview of CELP Vocoders.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 460
Controls
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 461
Controls Lab
Laboratory study of feedback control systems with experiments analyzing different types of plants, transducers and control techniques; emphasis on real-time computer control.

ELECTRICAL ENGINEERING 462
Advanced Controls
This is a graduate level course and aims to introduce the analysis of nonlinear system. The course will cover: the state space description of nonlinear system; the phase portrait analysis of the second order system; stability analysis of the nonlinear system based on linearization method; the Lyapunov stability theory, etc.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 463
Industrial Controls
This course covers the basics of Industrial Controls, including but not limited to relay control, ladders, counters, timers, switches and all electrical components necessary to program the control of a large machine.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 464
PLC’s (Programmable Logic Controls)
This course will start with the basics of Boolean Algebra; it will cite the differences between PLC control and relay control and full automation of major machines and applications; the differences in these controls will show how hard relay control is to implement and how flexible PLC control actually is; many different math functions will be analyzed and implemented in the theoretical construction of fully functioning PLC.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 466
Adaptive Controls
Adaptive Controls provides a graduate level introduction to the basic concepts, techniques, and the state-of-the-art of adaptive control systems. Upon completion of the course, students are expected to be able to conduct design, research, and development in the field. The course covers real time system identification algorithms, model reference adaptive control, pole assignment adaptive control, self-tuning and gain scheduling control systems, stochastic adaptive control, model-predictive control, and robustness issues of adaptive control systems.
This course offers a review of renewable energy (solar, wind, and tides) versus bioenergy (coal, oil, natural gas). The concept of light as electromagnetic radiation and pure energy as well as the concepts of converting sunlight into thermal energy will be discussed. Students will learn the semiconductor and electronic properties of solar cells, used to convert light into electricity. Secondary solar energy sources include solar hydrogen and concentrator technology.

3 semester hours

**Electrical Engineering 481**
**Analog Electronics Lab**

With a set of 6 experiments and simulating them using P-Spice, the goal of this course is to teach the concepts from the theory of analog electronics. The user must have solid understanding of the basic electronics and circuit theory aka Network Analysis. Pre-requisite: ELEG 348, ELEG 234 or equivalents. 3 semester hours

**Electrical Engineering 482**
**Analog Integrated Circuit Design**

Do a complete analysis of the 741 op-amp, including bandwidth, gain analysis, slew rate, power efficiency and I/O impedances. Analyze ROM, RAM, TTL, ECL, CMOS and more modern logic structures including Fanout, noise margin, latching, contention, logic and delay response. Pre-requisite: ELEG 348. 3 lecture hours; 3 semester hours

**Electrical Engineering 483**
**Digital Integrated Circuit Design**

Several integrated circuit architectures are analyzed at the transistor level to find key parameters by hand analysis as well as computer simulation: rise time, fall time, noise margins, logic state, hysteresis/memory, fanout, and power dissipation. Analysis includes an analysis of the major logic families: TTL, CMOS, NMOS, ECL, PECL, differential logic. 3 lecture hours; 3 semester hours

**Electrical Engineering 490**
**Alternative Energy Technologies**

This is a graduate level course and aims to introduce the alternative energy technologies in photovoltaic cells (PV) and fuel cells. It will cover: the physics, energy conversion efficiency, and challenges in PV cells, the principles, the stack and system design in fuel cells. 3 lecture hours; 3 semester hours

**Engineering**

**Engineering 111**
**Introduction to Engineering I**

This course introduces the student to the engineering design process on a beginning level. Emphasis is placed on the structure of the design process involving problem definition, development of alternatives, analysis, decision making and iteration. One guided design project and one independent project are completed by student project teams. Concurrent lectures and homework assignments develop skills in data management, mechanics, chemistry, electrical theory, energy and economics. Personal computer usage is emphasized for mathematical calculations and the preparation of engineering reports. Prerequisite: MATH 109. 3 lecture hours; 3 semester hours

**Engineering 300**
**Economics and Management of Engineering Projects**

The design process, engineering economics, project planning and ethics in engineering practice. A required course for all engineering majors, normally taken in the junior year, offered both semesters. Prerequisites: CPEG 286, CPSC 102, CHEM 103, ELEG 235, ENGR 111, MATH 215, PHYS 112 and junior standing. 3 lecture hours; 3 semester hours credit

**English**

Unless specifically stated in the course description, the only prerequisite for any undergraduate English department course is the fulfillment of the freshman composition requirement.

**Composition**

**English 100**
**Basic Composition**

Techniques of composition, including sentence structure, paragraph development, organization of the whole theme, with regular written assignments. Additional emphasis on fundamentals to assist students with weak backgrounds. A grade of C- or better admits students to ENGL 101. Students who receive a grade of D+ or below must repeat ENGL 100. Students who have a grade of A or B at the end of the semester may take the essay final for ENGL 101. If they score an A or B on that examination and have the recommendation of their ENGL 100 instructor, they may waive ENGL 101. 3 semester hours

**English 101**
**Composition and Rhetoric**

An introduction to the elements of effective writing, concentrating on structure, logic, specificity, focus, grammar, sentence structure, and mechanics. Frequent writing in and out of class. By the end of the semester, students should be able to compose and organize a grammatically correct and adequately developed expository essay. 3 semester hours

**English 100L**
**Developmental English**

For those who need academic preparation before studying in English, this course provides focused, individualized work on special problems in using English fundamentals, oral/aural problems, reading and oral comprehension, English pattern and structures, leading to the production of short written works. Students receiving a grade of D+ or below must take ENGL 100. 3 semester hours

**English 115**
**Methods of Inquiry**

This course is designed to help students become active participants in their own education and thereby to help them succeed in college. The course will address: questioning skills, critical thinking strategies and the use of every university resource in completing course assignments. Active listening, note taking, and test taking strategies are rehearsed, while units dealing with stress management, attitude and decision making skills aim to provide opportunities to increase the individual’s emotional stability. 3 semester hours

**English 200**
**English Cooperative Education Program**

An opportunity for English majors to work off-campus and put into practice those skills acquired within departmental programs. The co-op course requires a written report to be
evaluated by the School Director. In addition, the department will require an evaluation from the employer. By arrangement with the Chair.

ENGLISH 202
Advanced Exposition
Essay writing, with a stylistic approach and a concern for accuracy in presenting or explaining ideas in an orderly, logical manner. Emphasis on improved clarity and effectiveness, through careful revision in written reports and assigned papers, especially those pertaining to the student’s major field. This course is required for Business majors and emphasizes business forms. Prerequisite: Completion, with passing grades, of ENGL C101.

3 semester hours

ENGLISH 204
Technical Writing for Computer Engineers
A workshop course that covers the following topics: lab reports, engineering memos, technical business plans, scientific/engineering grant proposals, patent applications, technical papers, user manuals of product/software, and final engineering project reports. Prerequisite: ENGL 101.

1-6 semester hours

ENGLISH 205
Creative Writing
Extensive writing in short fiction. Progression from simple narrative, basic character description, dialogue and scene writing to vignette, short-short and short story. Marketing advice. Specific emphasis varies with instructor. Designed for the undergraduate who writes well but needs practice, direction, motivation.

3 semester hours

ENGLISH 206
Poetry Writing
For students with a demonstrated basic ability in the writing of poetry. Introduction to the techniques of poetry, covering such elements as meter, rhyme, image patterns, stanza forms, lyric, dramatic, narrative modes, blank verse, and free verse. Some history of poetic movements. Study of contemporary poetry. Work in the course is mainly writing and discussing of student poems.

3 semester hours

ENGLISH 218
Autobiographical Writing
This course focuses on the use of personal experience and history as the basis for literary pieces such as travel, memoir, and epistolary writing. Students learn how to process their experiences through writing.

3 semester hours

ENGLISH 308
Advanced Creative Writing
Seminar workshop: Considerable attention to the creative desires of individual students. Student may choose to write poetry, short stories, sections of novels, drama. Emphasis on completed manuscripts, potential publication, individual explorations of form and content. Prerequisite: English 201, 205, 218 or the permission of the instruction which is given only upon presentation of an acceptable piece of creative writing done by the student.

3 semester hours

Language and Literature

ENGLISH 102
Introduction to Literature
A writing intensive course that uses representative examples of poetry, drama, and fiction to develop one’s ability to analyze and appreciate literature. Co-requisite: ENGL 101

3 semester hours

ENGLISH 110
Major Figures in Literature
This course is offered in three one-credit sections, each section dealing with representative works of a major writer, and lasting one-third of a semester. Students may register for one or more sections. Usually the writers are related by either period or genre, as in the case of Henrik Ibsen, George Bernard Shaw, and Anton Chekhov, or Jack Kerouac, Henry Miller, and Sylvia Plath. Co-requisite: ENGL 101

1 semester hour

ENGLISH 105A
Introduction to Drama
Introductory study of drama. Readings are drawn from a variety of genres and literary periods. Co-requisite: ENGL 101

3 semester hours

ENGLISH 105B
Introduction to Fiction
Introductory study of fiction. Readings include short stories and several novels. Co-

3 semester hours

ENGLISH 100
Science Fiction
Study of the science fiction and speculative fiction genre, covering such aspects as the history of science fiction, treatment of character, plot, heroes, style; theme; impact on society; role of science and space flight; ecological and mystical concerns. Authors read and discussed range from Hawthorne and Poe, Wells and Verne to Asimov, Heinlein, Bradbury, Clark, and Vonnegut. Co-requisite: ENGL 101

3 semester hours

ENGLISH 197
Masterpieces of English Literature
An attempt to get some feeling for and pleasure from the development and continuity of English literature. Readings and discussions of selected major works by major authors such as Chaucer, Shakespeare, Milton, Swift, Blake, Wordsworth, Dickens, Tennyson, and Lawrence. Co-requisite: ENGL 101

3 semester hours

ENGLISH 198
Masterpieces of American Literature
The course will focus on individual masterpieces of American fiction, poetry and drama. Co-requisite: ENGL 101

3 semester hours

ENGLISH 207
American Literature I
A survey of the major literary movements and their cultural contexts from the writings of the first settlers to the establishment of a uniquely American literature in the mid-nineteenth century. Prerequisite: ENGL 101

3 semester hours

ENGLISH 208
American Literature II
A survey of the literature of transition from an era of traditional and idealized values to one of realist and relativist perceptions, covering the period from the Civil War to World War II. Prerequisite: ENGL 101

3 semester hours

ENGLISH 209
British Literature I
A survey of British literature from the beginnings to the eighteenth century. Prerequisite: ENGL 101

3 semester hours
ENGLISH 210
British Literature II
A survey of British literature from the eighteenth century through the twentieth century. Prerequisite: ENGL 101
3 semester hours

ENGLISH 212
Masterpieces of World Literature
An introduction to some of the core texts from the East and West, reflecting ancient, classical, and medieval traditions of great world cultures, ending with one or two masterpieces from the Early Modern period. Selections are drawn from the Bhagavad Gita, Gilgamesh, the Bible, Homer, Greek tragedy and comedy, Plato, Virgil, Dante, Cervantes, and others. Prerequisite: ENGL 101
3 semester hours

ENGLISH 213
Contemporary Drama
Dramatic works by British and American authors as well as works in translation primarily since World War II. Emphasis will be upon how to read a play, the difference between technical appeal and meaning, and similar fundamentals for reading drama for maximum understanding. The work of playwrights such as Williams, Albee, Pinter, Behan, Ionesco, Handke, Beckett and Shepard will typically be included. Co-requisite: ENGL 101
3 semester hours

ENGLISH 215
Thematic Studies in Literature
Introductory studies of literature in relation to major areas of concern in contemporary life. Courses will vary from semester to semester. Topics included are Travel and Adventure, Murder, Madness, Ethnic American Literature, and Law and Justice. Co-requisite: ENGL 101
3 semester hours

ENGLISH 216
Introduction to Poetry
By reading, discussing, and writing about a variety of English and American poems, students will develop their ability to read, understand, and enjoy poetry. Prerequisite: ENGL 101
3 semester hours

ENGLISH 223
Modern African-American Literature
Study of the fiction, drama, poetry, and essays of such significant black writers as Richard Wright, James Baldwin, Ralph Ellison, Lorraine Hansberry, Arna Bontemps, Malcolm X, and Toni Morrison. Co-requisite: ENGL 101
3 semester hours

ENGLISH 233
The Roots of Modern Culture
Topics and themes important to the understanding of the origin and development of modern Western society and culture. Subjects such as industrialism, the growth of the city, class conflict, the emergence of new values and expectations, the importance of war, and the role of minorities are explored in a variety of literary and historical texts. (Cross-listed as History 233) Prerequisite: ENGL 101
3 semester hours

ENGLISH 252
Women in Literature
The course explores literary and gender studies, including stereotypes, myths and realities in the way women are viewed in literature. Authors include: D.H. Kate Chopin, Henrik Ibsen, Virginia Woolf, Edith Wharton, and Margaret Atwood. Co-requisite: ENGL 101
3 semester hours

ENGLISH 305
Shakespeare
Selected examples of the comedies, tragedies, and history plays. While the main emphasis is the dramatic structure of the plays, some consideration is given to the Renaissance: political, religious, and social backgrounds of the plays. Prerequisite: ENGL 101
3 semester hours

ENGLISH 322
Understanding English Grammar
This course is intended for anyone who is interested in understanding English, but particularly for those intending to teach English at the secondary level. It takes a structural approach to English grammar, focusing on ten descriptive sentence patterns and classifying works based on English usage. Prerequisite: ENGL 101
3 semester hours

ENGLISH 325
Contemporary Poetry
Lectures and discussion concerning such movements as Modernism, Imagism, and Feminism in 20th century poetry. Can involve examination of non-Western poetry. Topics vary from year to year as the English faculty may direct. Prerequisite: ENGL 101
3 semester hours

ENGLISH 330
Studies in 19th Century American Literature
A variable content course covering the close study of individual authors (Hawthorne, Melville, Poe, Twain, Emerson) and major literary movements of the century (Romanticism, Naturalism, Realism). Prerequisite: ENGL 101
3 semester hours

ENGLISH 332
Studies in 20th Century American Literature
A variable content course covering such major novelists and poets as Fitzgerald, Hemingway, Faulkner, Dos Passos, Wright, Updike, Morrison, Eliot, Frost, and Stevens, as well as contemporary fiction and poetry. Prerequisite: ENGL 101
3 semester hours

ENGLISH 357
Studies in the Novel
A variable content course covering major figures and movements in the development of the novel from the 18th Century to the present. The authors studied are primarily, but not exclusively, North American and British. Prerequisite: ENGL 101
3 semester hours

ENGLISH 395
Topics in Literature
A variable content course covering major figures and movements in the development of the novel from the 18th Century to the present. Recent topics have been Jane Austen, Charles Dickens, Yeats, the novel in transition, the Spirit of ’76: Literature of Early American Republic; Literature and Psychology; the Quest; Literature of Revolt. Prerequisite: ENGL 101
3 semester hours

ENGLISH 397
Thesis
The undergraduate English thesis course is an independent study designed for majors with Literature concentrations. Under the guidance of a faculty member, the student will develop a research plan leading to a thesis in his or her area of interest. Requires prior approval of the department head. Prerequisite: ENGL 101
3 semester hours

ENGLISH 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and dean.
3 semester hours
English • Fashion Merchandising • Finance

English 399
Independent Studies
For the student who wishes to specialize in advanced projects not covered by the regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of dean.
1-6 semester hours

Fashion Merchandising

Fashion Merchandising 101
Fashion Fundamentals
The course includes an overview of the fashion industry; the changing world of fashion, history of retailing, the producers of fashion, global fashion markets, influential designers, and the auxiliary levels of fashion. This course also explores careers in fashion, and the most up-to-date computer technology. Students learn to use the basic technology to perform merchandising activities for manufacturers, contractors, and retailers. This course uses PDM (Product Data Management) and Micrografx designer applications. PDM is the standard for the industry and Micrografx is a CAD system used to create silhouettes, color, fabrics, and manipulate images that interface with PDM. Prerequisites: A trip to the NYC Fashion Markets is required.
3 semester hours

Fashion Merchandising 107
Home Furnishings
The importance of home furnishing in the marketplace has expanded as new stores dedicated to home goods have opened and department stores have enlarged their home good departments. This course presents a comprehensive coverage of the materials and products used in home furnishings in the global market, and gives our students an opportunity to focus on the merchandising and marketing of these products in retail stores today.
3 semester hours

Fashion Merchandising 108
Product Knowledge—Fashion Accessories
In-depth studies of fashion accessories and non-woven consumer products designed to give students a realistic appreciation of quality choices in merchandise selection, in performance standards, and consumer care. Specifically, the course emphasizes raw materials: leather, plastic, rubber, fur, precious metals, precious and semi-precious stones and products: shoes, hand-bags, luggage, gloves, furs, fine jewelry, cosmetics, and fashion accessories. Course requires that students research and prepare portfolios of fashion accessories from historic and current fashion periods. Students design and create some accessory items for the current marketplace.
3 semester hours

Fashion Merchandising or Retailing 200
Full Semester Co-op Experience
A paid co-op with faculty approved, fashion or retail affiliated organization offered to selected Fashion Merchandising and Retail Bachelor’s or Associate’s degree candidates. Applications should be submitted during the freshman fall semester or the spring semester for transfer students. Acceptance into the program and maintenance of a minimum 2.5 QPR for Bachelor’s degree and 3.0 QPR for Associate degree students. Faculty approved Fashion Merchandising and Retailing majors only.
1 semester hour

Fashion Merchandising 270
Fashion Show
A practical study of the techniques for Fashion Show production. The ultimate result is a fashion show presentation showing current styles from the New York and local fashion markets. Course includes planning, budgeting, organizing, writing commentaries, promoting, choosing fashions, staging and reviewing for the final show.
3 semester hours

Fashion Merchandising or Retailing 299
Independent Study in Fashion Merchandising or Retailing Techniques
Prerequisite: Permission of the Director and Advisor. Senior’s only.
1-3 semester hours

Fashion Merchandising 303
History of Costume
An introduction to the development of clothing and period dress. Includes clothing designs and fabrications from Mesopotamia, Greek, Roman, Byzantine, the 12th, 13th, 14th, 15th and 16th Century, Renaissance, 17th Century Baroque, 18th, 19th Century through modern dress. A portfolio of historical and modern day adaptations of clothing is required. Prerequisite: FM101
3 semester hours

Finance

Finance 309
Financial Management
Fundamental tools of analysis for the financial management of the firm. Sources and uses of funds analysis for capital budgeting and working capital management. Prerequisites: ECON 201 and 202, CAIS 102; junior or senior status.
3 semester hours

Finance 321
Investment Principles
Provides the student with the tools necessary for evaluating investments, including stocks, bonds, options and commodities. Additionally, it presents a systematic methodology for constructing efficient portfolios and evaluating portfolio performance. Prerequisite: FIN 309; junior or senior status.
3 semester hours

Finance 345
Management of Financial Institutions
Financial management concepts and techniques for the managerial problems of depository institutions. Includes traditional bank management concerns and those resulting from the changing economic environment. Prerequisites: ECON 301; FIN 309; junior or senior status.
3 semester hours

Finance 365
Advanced Financial Management
General survey of financial theories, from the viewpoint of both the financial officer or manager and creditor or stockholder. Prerequisites: FIN 309 and FIN 321; junior or senior status.
3 semester hours

Finance 366
Cases in Finance
Application of financial theories to solve real world problems in Finance. Case studies involving financing and investment decisions, mergers and acquisitions, financial restructuring, dividend policies, and risk management; how these issues relate to the overall strategic objectives of the firm. Prerequisites: FIN 309; junior or senior status.
3 semester hours

Finance 380
Multinational Finance
The course concerns the international dimensions of corporate finance. The goal of the
course is to equip students with the tools to deal with some of the major environmental and decision-making problems relating to corporate overseas finance and investments. Prerequisites: FIN 309; junior or senior status. 3 semester hours

First Year Seminar

FIRST YEAR SEMINAR 101
First Year Seminar
First Year Seminar helps first-year students get the most out of their college experience. Specifically, the purposes and learning outcomes of the course are (A) to develop a love of learning, (B) to examine and practice the norms of UB's academic culture, and (C) to acquire and hone the thinking skills that lead to success in college. As a seminar, the course emphasizes guided discussion of challenging texts. 3 semester hours

FIRST YEAR SEMINAR 102
First Year Seminar
The purpose of the First Year Seminar 102 course is to awaken intellectual curiosity and foster a strong commitment to academic culture. As an adult student in an accelerated program, the Seminar course is designed to encourage students to be active participants and to acquaint (or re-acquaint) students with the performance skills, thinking skills, and personal qualities necessary to succeed as an adult learner. 3 semester hours

French

FRENCH 101
Elementary French I
This course is for students who have little or no knowledge of French. Emphasis on listening, speaking, reading and writing skills. Instruction based on in-class use of videocassettes and regular laboratory attendance. 3 semester hours

FRENCH 102
Elementary French II
Continuation of French 101. Further development of listening, speaking, reading and writing skills. Introduction to contemporary French customs through use of videocassettes and reading of selected passages of literature. Emphasis on basic structural linguistics. Laboratory attendance essential. Prerequisite: FREN 101. 3 semester hours

FRENCH 103
Intermediate French I
Provides a systematic review of grammatical structures. Dictées. Introduction to various short literary texts by Francophone authors. Use of videocassette program and attendance at laboratory as needed. Prerequisite: FREN 102, or four years of high school French. 3 semester hours

FRENCH 104
Intermediate French II
This course is conducted entirely in French, with emphasis on reading, writing, and oral presentations by students. Study of texts by Gide, Proust, Claudel, Romains, Pragnol, Saint-Exupéry, Sartre, Camus, Senghor, Gézaire, and others, including selections from the Surrealists and authors of the nouveau roman. 3 semester hours

FRENCH 205
Pensez Francais
This course is designed for the French student with at least two years of university French or the equivalent. It will familiarize the student with French culture from an historical and literary overview beginning in the 16th Century through colonialism and the Second World War. Use is made of film and text. Emphasis is placed on the expansion of vocabulary, review of advanced grammar and oral and written practice based on the films and literary texts. 3 semester hours

FRENCH 275
Topics in French & Francophone Literature
Reading of representative works drawn from French and Francophone (West African & Caribbean) literature and discussion of trends and idioms among speakers of French. This course may be given in French or in a mixture of French and English, according to student needs. Pre-requisite: FREN 104, if given in French. 3 semester hours

FRENCH 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director. 3 semester hours

FRENCH 399
Individual Study
Special projects on topics not studied in detail in regular courses, or projects on topics included in regular courses when those courses are not available. Prerequisite: Permission required of School Director. 1-6 semester hours

Geology

GEOLOGY 105
Introduction to Geology
Concepts of physical geology presented with a view to increasing awareness and appreciation of man's natural geological environment. Topics include: plate tectonics, volcanic, earthquakes, glaciers, groundwater, rocks, minerals, fossils; field trips. Requires no background in the physical sciences. 2 lecture periods; 1 two-hour laboratory; 3 semester hours

GEOLOGY 205
Environmental Geology
The application of geology to problems arising out of the interaction of man and the planet. Topics include: natural resources and conservation, geothermal energy; geological hazards such as earthquakes, volcano, floods, mass movement and subsidence; and geology and regional planning; field trips. Recommended: a course in laboratory science. 2 lecture periods; 1 two-hour laboratory period; 3 semester hours

Health Sciences

HEALTH SCIENCES 101
Seminar in Healthcare Professions
This seminar course provides the health sciences student with an overview of a variety of healthcare professions and professionals. Daily activities and responsibilities, scope of practice, training, credentialing and philosophy of practice are explored for various health professionals (i.e., medical, osteopathic, naturopathic, chiropractic, dental and veterinary physicians, acupuncturist, physician assistant, nurse practitioner, physical therapy, medical technology, dental hygiene, health education, etc.) 3 semester hours
HEALTH SCIENCES 201
Medical Terminology
This course introduces concepts and terms that are used within the health sciences and related fields.
1 semester hour

HEALTH SCIENCE 240
Theory and Practice of Community Health Education
An introductory course that will provide students with the historical, philosophical and theoretical principles that govern the development of health education. Health promotion, the role of the health educator in clinical, community and school systems will be emphasized. Ethical issues, careers, organizations and future trends in the profession will also be examined.
3 semester hours

HEALTH SCIENCES 250
Intro to Public Health
This is an introductory course on public health principles and the current delivery systems in the US. It introduces the major areas of public health, epidemiology, health care management, environmental and social behavioral health, health informatics. Current problems and alternative solutions will also be examined.
3 semester hours

HEALTH SCIENCES 301
Intro to Exercise Science
This course presents an overview of the field of Exercise Science, including its development, professional activities and sub-disciplines.
3 semester hours

HEALTH SCIENCES 310
Water Supply and Wastewater Treatment
This course introduces students to issues related to water supply and wastewater treatment. Topics covered include federal and state rules and regulations, water reuse, environment and watershed, population growth, and the multiple uses of water and reclaimed wastewater. Introduction of concepts of urban planning, processes such as reverse osmosis, and public health also are raised. Prerequisite: CHEM 103, 104, 205, 206
4 semester hour

HEALTH SCIENCES 320
Food Sanitation
The course introduces concepts related to the production, storage, preparation of food for human consumption. Attention is given to disease processes and their relationship to food preparation and consumption. Topics covered also include the commercial, social, and legal environments of food production and recall of contaminated food
3 semester hours

HEALTH SCIENCES 321
Exercise Physiology
This course examines how the body functions under exercise stress and how fitness behaviors and strategies affect performance, health and wellness. Emphasis is placed upon the muscular, cardio respiratory, and other physiological processes that occur as a result of exercise, conditioning, and the effects of disease. A one credit laboratory component is also included.
4 semester hours

HEALTH SCIENCES 330
Solid and Hazardous Waste
The course introduces the nomenclature of the Environmental Protection Agency, wherein Hazardous waste is divided into listed wastes, characteristic wastes, universal wastes, and mixed wastes. Specific procedures determine how waste is identified, classified, listed, and delisted. Attention in the course is given to the safe handling, reclamation, and disposal of these wastes in the context of various kinds of work (e.g., lab work, industrial production, and community disposal programs). Prerequisites: CHEM 103, CHEM 104, MATH 109.
3 semester hours

HEALTH SCIENCES 331
Kinesiology
The gross anatomy of the skeletal and muscular systems and the analysis and study of human movement and biomechanics are the focus of this course. Emphasis is placed on anatomical and mechanical analysis of motion as it pertains to movement in sport and exercise.
3 semester hours

HEALTH SCIENCE 325
Health Issues for Special Needs Populations
This course introduces students to special needs populations, including those who are recovering from recent illness or accidents. Attention is given to resources (medical, social, and legal) in the support of these populations.
3 semester hours

HEALTH SCIENCES 337
Strategies for Community Health Education
A structured off-campus learning experience designed to provide senior students with a practical professional experience in Fitness and Exercise Science.
3 semester hours

HEALTH SCIENCES 340
Occupational Health and Safety
Introduction to concepts related to the US Department of Labor's Occupational Health and Safety regulations and processes. Implications for workplace environments, commercial development, and municipal and state planning are considered in some detail.
3 semester hours

HEALTH SCIENCES 341
Strength & Conditioning
This course covers the anatomy and physiology, training sequences, available equipment, and safety factors, including contra indications, in the optimal development of strength and conditioning.
3 semester hours

HEALTH SCIENCE 345
Comparative Diet Strategies
This course explores and compares various dietary strategies, including low-fat, high-carbohydrate, high-protein, macronutrient-balanced, macrobiotic, high-fiber, vegetarian, vegan, Paleolithic, and Mediterranean. The pros and cons of these various approaches are discussed, along with the evidence-base that exists, or does not exist, to support their use.
3 semester hours

HEALTH SCIENCES 350
Institutions and Housing
Introduction of concepts related to the US Department of Housing and Urban Development and other sources of housing development and redevelopment. Rules and regulations governing institutional safety, environmental impact, and sustainability are studied.
3 semester hours

HEALTH SCIENCES 351
Fitness and Wellness Program Development
The course examines features of fitness and wellness program design and development. Disease prevention as a feature of fitness and wellness is studied in detail, with attention to social systems and infrastructure.
3 semester hours
HEALTH SCIENCES 361
Fitness Assessment
Examination of topics such as body composition, cardio respiratory fitness, nutritional analysis, pulmonary function, flexibility, muscular strength with respect to the development of individual fitness assessment programs.
3 semester hours

HEALTH SCIENCE 385
Epidemiology for Health Science Professionals
The course introduces the study of disease process, with special attention to transmission, containment, and treatment. Topics covered include urban environments, travel, socioeconomic conditions affecting the spread of disease, and the like. Prerequisite: Biostatistics.
3 semester hours

HEALTH SCIENCES 370
Environmental Planning and Management
The course examines environmental planning and management, land use and reclamation, industrial, residential, and commercial use of natural resources. Attention is given to Green technologies, such as renewable energy and biofuel development.
3 semester hours

HEALTH SCIENCES 380
Internship in Exercise & Fitness
A structured off-campus learning experience designed to provide senior students with a practical professional experience in Fitness and Exercise Science.
3 semester hours

HEALTH SCIENCE 430
Health Sciences Information Literacy
This course introduces topics in information literacy, including information analysis and evaluation, the most important databases in health care and health sciences fields, and the like.
3 semester hours

HEALTH SCIENCE 420
Food Service Management
The basic principles of microbiology, sanitation, safety, equipment selection, and facility layout for a food service operation are explored, including environmental control and the prevention of food-borne illnesses, cleaning materials and procedures, general safety regulations, food processing methods, first aid, and fire prevention.
3 semester hours

HEALTH SCIENCES 423
Environmental Microbiology
The course introduces study of relationship microorganisms to the earth including the atmosphere. The role of microbes in air, water, soil (in light of human waste and interaction) is studied in detail. Prerequisites: Senior standing in Environmental Health track.
3 semester hours

HEALTH SCIENCE 460
Vitamins & Minerals
Basic and clinical aspects of macronutrients will be discussed with emphasis on vitamin and mineral metabolism at the cellular and tissue level. Lectures will include specific functions, requirements, sources, and effects of deficiencies and excesses of vitamins and minerals.
3 semester hours

HEALTH SCIENCES 470
Clinical Herbology and Botany
This course presents a study of the use of herbs in nutritional practice. Lectures will include the plant sources, mechanism of action, pharmacological/toxicological properties, and clinical applications of individual medicinal herbs commonly used for the promotion of health.
3 semester hours

HEALTH SCIENCES 471
Exercise Nutrition
The course examines aspects of sports nutrition detailing proper dietary and nutritional supplement protocols for enhancing endurance and performance during exercise and sports.
3 semester hours

HISTORY 100
Major Figures in World History
This course is offered in three one-semester hour sections, each section dealing with one person of historical significance, and lasting 12 class periods. Students may register for one or more sections. Usually the three persons are related chronologically or thematically, as in the case of Hitler, Mussolini and Stalin, or Washington, Jefferson and Adams, or Florence Nightingale, Emmeline Pankhurst, and Emma Goldman.
1 semester hour

HISTORY 101
World Civilization I to the 17th Century
The first semester of a historical survey of world cultures. The development of social, political, economic, and religious institutions and the major trends of philosophy, science, literature, and art.
3 semester hours

HISTORY 102
World Civilization II — 17th Century to the Present
The second semester of a historical survey of major world cultures. Because of the nature of the period studied, additional emphasis on political, economic and social developments and on the role of science and technology.
3 semester hours

HISTORY 200
History Co-Operative Education Program
Provides history majors an opportunity to work in local historical collections, museums, libraries, governmental offices, and other relevant places, where the skills of historical research and writing are used. Co-op requires consultation and reports between student, employer, and School Director.
0-2 semester hours

HISTORY 207
American History to 1877
European background to discovery and exploration. The English colonies; struggle for North America; the Revolution; constitutional development; growth of democracy; westward expansion; sectionalism; Civil War and Reconstruction. Major political, social, economic, and cultural trends in American society through Reconstruction.
3 semester hours

HISTORY 208
American History Since 1877
Gilded Age; industrial development; big business; expansion; imperialism; the U.S. as a world power; wars and foreign affairs; constitutional trends; political developments, economic and social trends and problems;
HISTORY 222
The Ancient Greeks
From pre-Mycenaean times to the Hellenistic period, ending in 146 B.C. Emphasis on institutions, everyday life, ideas, and culture. 3 semester hours

HISTORY 223
Ancient Rome
From earliest Roman society to the time of Constantine. Emphasis on institutions of the Roman Republic and Empire and their impact on Western Civilization. 3 semester hours

HISTORY 233
Roots of Modern Culture
Topics and themes important to the understanding of the origin and development of modern Western society and culture. Subjects such as industrialism, the growth of the city, class conflict, the emergence of new values and expectations, the importance of war, and the role of minorities are explored in a variety of literary and historical texts. (Cross-listed as English 233) 3 semester hours

HISTORY 250
Introduction to the Third World
General review of the principal countries of the Third World, their history, philosophical outlook and culture, and the political implications of their status in between the major powers of the East and West. Particular emphasis on social, economic, and political changes under and after colonialism. 3 semester hours

HISTORY 280
East Asian Civilization
An introduction to the traditional society of China, Japan, Korea, and Vietnam and its modern transformation. 3 semester hours

HISTORY 299
Independent Study in History
Designed for the student who wishes to develop a survey project not covered by the listed course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director 1-6 semester hours

HISTORY 301
North America in Colonial and Revolutionary Times
Study of the methods of European expansion; Indian, African and European contact in the 17th Century; political development of the British colonies; events leading to the revolutionary acts of 1763-1789; the period of the Confederation and social conditions in a revolutionary context. 3 semester hours

HISTORY 303
The Seedtime of the Republic: American Politics and Society, 1789-1815
The establishment of the U.S. government and economy; U.S. state relations; the rise of political parties; Federalist and Republican social thought and ideology; the War of 1812 and the development of American nationalism. 3 semester hours

HISTORY 304
Civil War and Reconstruction
Causes of the war; sectionalism, slavery, the territories, economic, social and intellectual factors, secession and war; major military campaigns, constitutional developments, presidential and congressional reconstruction, and the disputed election of 1876. 3 semester hours

HISTORY 313
American Social History from Colonial Times to the Civil War
Life styles and reciprocal attitudes of Indians, Puritans, Blacks, Sectarians, women, and immigrants elucidated through a study of original materials including diaries, art, music, and literature. 3 semester hours

HISTORY 315
History of American Immigration
Close study of the immigration experience from the 17th to the 20th Centuries. Emphasis on social, cultural and economic impact of immigrants on America, and of America upon them, especially with regard to the reaction of Native Americans. 3 semester hours

HISTORY 316
Early African-American History
A study of the slavery experience from 1619 to 1877 focusing on the political, social, and economic aspects of the system, and the varieties of resistance to the system. 3 semester hours

HISTORY 317
Twentieth Century African-American History
Emphasis is placed on the struggle of African Americans to attain full rights of citizenship, Examination of African-American leadership, its ideas, and the impact of its ideas upon various African-American movements, such as integration, emigration, separatism, civil rights, and black power. 3 semester hours

HISTORY 319
Diplomatic History of the United States
Foreign relations of the United States from the Treaty of Paris of 1783 to the end of the Cold War. Treaty-making, involvement in international law and organizations, intercontinental economic and military arrangements. 3 semester hours

HISTORY 326
Europe Since 1918
Treaty of Versailles; Lenin and Wilson; German Revolution; Weimar and European culture; Communism; Fascism; National Socialism; Third Republic and fall of France; origins of the World War II; European resistance movements; wartime diplomacy; political collapse of Europe; postwar Europe and the world. The instructor may focus on a particular nation and its relationship to European events during this time period. 3 semester hours

HISTORY 336
Portrait of an Age
Comprehensive study of life and manners of a particular historical period, with emphasis on original sources such as diaries, memoirs, official records, literature, art and music. Periods could include the ante-bellum South, the Gilded Age, Victorian Society in England or the United States, France in the time of Louis XIV, and so on. May be repeated for credit if topics vary. 3 semester hours

HISTORY 360
Studies in African History and Culture
Examinations of African historiography up to, including, and after the period of colonization, as well as of the concepts underlying African religions. 3 semester hours

HISTORY 361
Modern Africa
This course takes up where History 360

3 semester hours

HISTORY 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
3 semester hours

HISTORY 399
Independent Study in History
For the student who desires to specialize in advanced projects not covered by the regular course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director.
1-6 semester hours

HISTORY 441
Topics in American History
Examination in depth of topics ranging from the development of slavery, the foundation of the Republic, the War of 1812, Indian-European relations, the rise of industry, the Civil War, diplomacy, the New Deal, the impact of World War II on American life, and so on. Topic varies by semester. Course may be retaken for credit if topics vary. Prerequisite: 6 hours of American History.
3 semester hours

Human Services

HUMANS SERVICES 101
Introduction to Gerontology
An interdisciplinary overview of the implications of aging in American society. This course is designed to acquaint the student who is contemplating a career in gerontology, with the physical, psychological, social, economic and cultural dimensions of the total experience of growing older.
3 semester hours

HUMAN SERVICES 110
Alcohol and Other Drugs in Society
This course explores alcohol and other drug use and abuse in society. Included in the course will be a historic review, the role of culture in use of drugs, the effect on society, the family and the individual, and an overview of the etiology, assessment and treatment of dependence.
3 semester hours

HUMAN SERVICES 150
Career Management
This course prepares students to manage their own careers early in their college experience for their eventual college to work transition. Through self-exploration, students learn more about themselves in relationship to the world of work and about creating college experiences that will make them more marketable in a global community.
1-3 semester hours

HUMAN SERVICES 201
Introduction to Counseling
This course focuses on skills, theories and techniques of the helping profession. The importance of helpers knowing themselves is crucial in the helping field. An integrated, experiential component designed for self-exploration and increased understanding of self is explored through family of origin work.
3 semester hours

HUMAN SERVICES 203
Introduction to Human Services
This course briefly explores the historical beginnings of the human service field and focuses on the present day service delivery models, the needs of clients and the training of human service professionals. An integrated approach including community site visits and case studies will assist students in gaining a firm understanding of this field.
3 semester hours

HUMAN SERVICES 205
Counseling Methods for Specialized Populations
Students study through biographies specialized populations (i.e. those with mental and physical disabilities, drug and alcohol users, and emotionally, physically, and sexually abused) while becoming familiar with the various counseling approaches useful in effecting changes in these individuals.
3 semester hours

HUMAN SERVICES 225
Sign Language I
This course introduces students to the Art of Sign Language. Using American Sign Language they will be able to communicate on a basic level. Students will learn subtle aspects of language, such as facial expression, gestures (non-verbal communication), use of classifiers, and directional verbs. Students will learn the manual alphabet and be able to use it in the everyday interactions if needed.
3 semester hours

HUMAN SERVICES 230
Sign Language II
Sign Language II will reinforce the knowledge students have gained in Sign Language I. Using American Sign Language, students will begin to speak more fluently. Their skills will be perfected as they continue to learn subtle aspects of the language, such as facial expressions, gestures, from verbal communications, use of classifiers, and directional verbs. Students will perfect the manual alphabet and be able to use it in their everyday interactions when needed.
3 semester hours

HUMAN SERVICES 277
Practicum in Human Services
Students enrolled in the practicum receive individually arranged on-site placement in human service agencies. This arrangement is intended to provide students the opportunity to experientially investigate the specific area of interest that they have developed and/or to allow for the individualization necessary to meet the student’s specific skill area needs. Students are expected to be concurrently in a class where they have an opportunity to discuss and process their on-site learning experiences.
1-6 semester hours (Every Semester)

HUMAN SERVICES 299
Special Topics
Investigation of current topics in the human services field,
1-6 semester hours

HUMAN SERVICES 301
Crisis Management
This course provides a background in cultural diversity and competence specifically related to human services settings. This includes culturally centered communication skills related to clients. It also includes sensitivity and awareness around the design and implementation of human services programs. The course will help students effectively navigate ethnic, race, gender and age related issues as they relate to client service and program development.
3 semester hours
Human Services • Integrated Studies

HUMAN SERVICES 302
Multicultural Perspectives in Human Services
Students are exposed to models of crisis intervention that facilitate crisis resolution. Crisis theory, critical factors, developmental and situational crisis as well as intervention with unique populations and special issues are discussed. Course includes competency-based skill-building exercises.
3 semester hours

HUMAN SERVICES 305
Strategies and Techniques of Group Interaction
Students become aware of strategies and techniques of group interaction as they relate to behavioral outcomes. Different theoretical models will be offered and opportunities will be given to demonstrate the effectiveness of specific approaches to unique populations.
3 semester hours

HUMAN SERVICES 309
Strategies for Effective Parenting
Students will acquire relevant child-raising information and constructive parenting techniques. Several therapy models useful for understanding child development will be explored. Emphasis will be on exploring personal parenting influences and preparing students to parent positively.
3 semester hours

HUMAN SERVICES 312
Internship in Human Services
The internship differs from the practicum in that it emphasizes the organizational aspects of the placement, i.e. management, planning, research, etc.
1-6 semester hours

HUMAN SERVICES 315
Substance Abuse and Chemical Dependency
This course concentrates on assessment and diagnosis of substance abuse and chemical dependency as well as the different treatment modalities and methods used to help the addicted. Included in the course will be a look at the different addictions and compulsive behavior patterns including alcohol and other drug dependency, gambling, and eating disorders.
3 semester hours

HUMAN SERVICES 316
Strategies for Effective Families
This course explores functional and dysfunctional families. Students will gain an understanding of the family system and methods of intervention and treatment for the family as well as individuals within the family.
3 semester hours

HUMAN SERVICES 320
Applied Ethics for Human Services Professionals
A general introduction to basic ethical principles as applied to human services and direct support workers across a spectrum of programs. Programs include work in hospital, community, day care, school, recreational, rehabilitation and mental health settings. Students apply ethical principles throughout the course to topics and case studies from the class text and from actual examples from their own practicum placements. Students engage in reading, discussion, writing, and individual presentations during the course. Students recognize basic ethical terminology, apply ethical models to relevant cases, and draft their own ethical decision-making model as a product of this course.
3 semester hours

HUMAN SERVICES 324
Clinical Ethics in Human Services
This seminar course is designed as a culminating experience incorporating primary readings and case studies. Students will have an opportunity to explore and discern current issues and personal interests in the human service field.
3 semester hours

HUMAN SERVICES 330
Seminar in Human Services
This seminar course is designed as a culminating experience incorporating primary readings and case studies. Students will have an opportunity to explore and discern current issues and personal interests in the human service field.
3 semester hours

HUMAN SERVICES 331
Process of Living and Dying
A seminar based on the premise that death and dying are closely related to life and living. This course explores the processes of death and dying, its effect on family members, cultural attitudes toward death, and various professional and paraprofessional roles available to deal with these issues.
3 semester hours

HUMAN SERVICES 332
Counseling Strategies for Career Decision-Making
Students will be presented with strategies and techniques for career decision-making as they relate to different issues and populations such as re-entry, mid-life, aging, youth and adult offenders, addiction (drug and alcohol), and cultural issues. Establishing career management strategies and the utilization of community resources in career planning will also be explored.
1-6 semester hours

HUMAN SERVICES 333
Social Policy and Administration
This course introduces the student to the various components of social policy; formation, implementation, administration, and evaluation. Theoretical issues as well as historical factors in policy are presented. Practical problems in administration of non-profit agencies are presented and analyzed.
3 semester hours

HUMAN SERVICES 335
Seminar in Critical Issues in Contemporary Gerontology
This course deals with societal aspects of aging and focuses upon socio-cultural factors that contribute to patterns of aging in the USA. Topics covered include the cultural meaning of aging; the socialization process of aging; the population dimension of aging; human ecology of the aged; social stratification among the aged; deviance and crime among the aged; social power of the aged; and social change and the aged. Prerequisites: HUSV 101 or SOC 101
3 semester hours

HUMAN SERVICES 339
Seminar in Critical Issues in Contemporary Gerontology
This course is interdisciplinary in its orientation and its purpose is to familiarize students with the rich diversity of professional literature contributing to the field of gerontology. In addition, it is designed to demonstrate the linkages between theoretical issues and practical concerns in the field of aging. The course will draw upon the knowledge and experience of a variety of scientists and practitioners who will lead discussions on selected issues to be identified by the seminar’s participants. Prerequisites: GERO 101 and 12 additional hours of gerontology course work.
3 semester hours; upon student demand

Integrated Studies

INTEGRATED STUDIES C101B
Ethical Issues in Computing
Ethical basis for dealing with technological issues involving the computer. Context for ethical decision-making: ethical relativism, utilitarianism, deontology, virtue ethics. Software piracy, intellectual property rights, computer crime, computer viruses and worms, privacy, responsibility, liability and professional ethics. The course includes oral presentations, discussions and written
papers on issues currently in the news and/or related to the topics at hand. Prerequisite: ENGL C101 or Department Permission.
3 semester hours

International Business

INTERNATIONAL BUSINESS 325 Import/Export
This course surveys functions and responsibilities of international traffic personnel; terms of trade; U.S. and foreign rules and regulations; documentation; methods of payment; ocean transportation; price quotations; analysis of transportation and marine insurance. Prerequisites: ECON 201, ECON 202; junior or senior status.
3 semester hours

INTERNATIONAL BUSINESS 360 Business and International Law
This course covers International Business Law fundamentals which operate as the "constitution" for international economic relations. A basic proposition of the course is that understanding International Business Law is essential to the study of International Relations, including the global economy and business.
3 semester hours

INTERNATIONAL BUSINESS 362 International Sales (Commercial) Transactions
This course introduces the basic issues in an international sales transaction. Based on the United Nations Convention on Contracts for the International Sale of Goods (CISG), the course examines formation of international sales contracts, transfer of title to goods, allocation of risk of loss, methods of financing the sale of goods, assurance of payment for goods, and rights and responsibilities of air and sea carriers.
3 semester hours

INTERNATIONAL BUSINESS 363 Settlement of International Business Disputes
This course examines the techniques and institutions available to states, corporations, or individuals for the peaceful settlement of international business disputes. It focuses on the settlement of international business disputes through such means as negotiation, mediation, arbitration, court systems of sovereignties, and the International Court of Justice.
3 semester hours

International Political Economy and Diplomacy

INTERNATIONAL BUSINESS 366 International Business and Customs Unions
This course examines the origins and historical development of the European Union, its institutions, business policies and special relationships with the rest of the world to create a common currency to achieve open trade in business across borders.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 301 Economics and Development
This is an introductory course of economics from a political science perspective. Major concepts and issues in both macro and micro economics will be covered, particularly as they relate to politics.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 202 Intro to Political Economy
The Introduction to Political Economy reviews the ways in which politics, trade, and economics are interwoven in today’s world. The course introduces students to basic concepts and issues in political economy and examines the factors that have contributed to the evolution of political economy and to the rise and fall of competing models of political economy.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 303 Political Economy of North America
This course examines the interactions of politics and economies of the United States, Mexico, and Canada. Issues to be covered include NAFTA, immigration, drug-trafficking, environment, terrorism, and foreign policies of the region.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 321 (IPED 321/PSCI 303) Political Economy of East Asia
In recent decades, the East Asian region has often been described as a model of socioeconomic development, which newly developing regions should emulate. This course will encourage learners to explore the extent to which the East Asian paradigm of development is valid for other regions. This course will explore the cultural and historical factors contributing to the political and economic trajectories China, Korea, and Japan. Through studying East Asia’s unique sociopolitical and economic trajectory, students should be equipped to better contextualize and assess the challenges and opportunities currently facing the Peoples Republic of China, Taiwan, Hong Kong, Japan, and the Koreas.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 329 Political Economy of China
This course is designed to help students make sense of contemporary China—its dynamic social and economic changes, its lasting political culture, its enduring struggle for modernization and democratization, and its evolving relations with the rest of the world. The focus will be on major achievements, problems, and challenges facing China today. Instructor’s permission may be required for this course.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 340 (IPED 340/PSCI 303) Political Economy of Latin America
This course will explore pre-Colombian, as well as colonial and post-colonial political and economic development in Latin America. It will pay particular attention to socio-political developments of the Cold War period as well as recent significant initiatives such as the Santiago Commitment, MERCOSUR, and NAFTA, attempting to assess their impact upon Latin America’s transformation from developmentalism, to Third World politics, to an emerging center of democratic capitalism.
3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 329 Political Economy of China
This course is designed to help students make sense of contemporary China—its dynamic social and economic changes, its lasting political culture, its enduring struggle for modernization and democratization, and its evolving relations with the rest of the world. The focus will be on major achievements, problems, and challenges facing China today. Instructor’s permission may be required for this course.
3 semester hours
International Political Economy and Diplomacy • Japanese • Korean

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 345
Political Economy of EU
This course studies the origin, evolution and current development of the European Union. Focus will be on the political, economic, and social impact of EU on Europe as a whole, on individual member state, and on EU-US relations. Instructor's permission may be required for this course. 3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 390
Multinational Corporations in IPE
This course analyzes the role of MNCs in IPE. Topics include the nature, objectives, and decisions of MNCs in today's politics and economics, the political and economic implications of foreign direct investment, and the effects of MNCs' operations overseas on the political economy of the host country and the home country such as issues of outsourcing and insourcing. Instructor's permission may be required for this course. 3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 396
Seminar on IPE
This is an advanced research seminar for IPED majors. It focuses on IPE research methods and senior thesis writing. Instructor's permission may be required for this course. 3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 395
Political Economy of Environment
This course studies various environmental issues in international political economy. A global perspective is stressed with references made to several international environmental agreements, their enforcement, and their impact on global and regional economy. The course will also discuss issues related to environment such as epidemics and their relations to international political economy. Instructor's permission may be required for this course. 3 semester credits

JAPANESE 101
Elementary Japanese I
Introduction to the Japanese language, stressing speaking, listening, reading and writing. The course will feature the Japanese writing system, and introduce the student to the language's phonetic/phonemic structure gradually, with additional stress on pronunciations, aural comprehension and basic conversation. 3 semester hours

JAPANESE 102
Elementary Japanese II
Continuation of Japanese 101. Prerequisite: Japanese 101 3 semester hours

JAPANESE 103
Intermediate Japanese I
Conversation based on the reading of current prose texts. Thorough review of grammar and vocabulary, and continued drill in writing. Introduction to Japanese culture and recent history through use of film, video s, and newspapers. Prerequisite: JAPN 102. 3 semester hours

JAPANESE 104
Intermediate Japanese II
Continuation of Japanese 103, with special focus on reading and writing with style and fluency. Prerequisite: JAPN 103. 3 semester hours

JAPANESE 275
Japanese Culture and Literature
This course examines and discusses the traditional and changing images of women in Japanese culture, language, and literature. Students are provided with an opportunity to nurture critical points of view on stereotypical gender notions. Class discussions are conducted in Japanese. 3 semester hours

JAPANESE 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director. 3 semester hours

JAPANESE 399
Independent Study
Special projects on topics not studied in detail in regular courses, or on topics included in regular courses when those course are not available. Prerequisite: Permission of advisor and School Director. 1-6 semester hours

KOREAN 101
Elementary Korean I
Introduction to the Korean language, stressing speaking, listening, reading and writing. The course will start with the Korean writing system, its phonetic/phonemic system, and its structure, continue with an examination of what makes Korean unique to other languages, and then proceed with a step by step study of grammar, vocabulary, writing and conversation. 3 semester hours

KOREAN 102
Elementary Korean II
Continuation of Korean 101. Prerequisite: KORN 101 3 semester hours
Korean • Law • Literature and Civilization • Management and Industrial Relations

KOREAN 103
Intermediate Korean I
Conversation based on the reading of modern prose texts. Drill in written and oral expression. Prerequisite: KORN 102
3 semester hours

KOREAN 104
Intermediate Korean II
Continuation of Korean 103. Prerequisite: KORN 103
3 semester hours

KOREAN 398
Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
3 semester hours

KOREAN 399
Independent Study
Special projects on topics not studied in depth in regular courses, or on topics included in regular courses when those courses are not available. Prerequisite: Permission of advisor and School Director.
1-6 semester hours

Law

LAW 251
Business Law I
Court systems, sources of law in the United States, the constitutional basis of the legal system, government power to regulate business, the types and powers of administrative agencies, civil dispute resolution and alternatives to civil litigation; the law of contracts, fairness and good faith in interpretation of contracts, and the United Nations Convention on Contracts for the International Sale of Goods; problems in Agency and Employment, the ethical implications of business decisions, the broad functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure.
3 semester hours

LAW 252
Business Law II
Uniform Commercial Code (Sales, Commercial Paper, Bank Deposits and Collection); business organization; Property (Personal Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 253
Commercial Law
Business organization; Property (Personal Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 254
Property
Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 255
Criminal Law
Broad functions of criminal and tort law, the problems in Agency and Employment, the breadth of functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure. Prerequisite: LAW 251
3 semester hours

LAW 256
Federal Income Taxation
Federal income tax law, income tax planning, individual income tax filing, sales tax.
3 semester hours

LAW 257
International Law
3 semester hours

LAW 258
Taxation
Federal tax law, tax planning, and tax administration.
3 semester hours

LAW 259
Taxation II
Federal tax law, tax planning, and tax administration.
3 semester hours

LAW 260
Environmental Law
Environmental law, toxic torts.
3 semester hours

LAW 261
Torts
Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior or senior status.
3 semester hours

LAW 262
Property
Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 263
Criminal Law
Broad functions of criminal and tort law, the problems in Agency and Employment, the breadth of functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure. Prerequisite: LAW 251
3 semester hours

LAW 264
Environmental Law
Environmental law, toxic torts.
3 semester hours

LAW 265
Torts
Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior or senior status.
3 semester hours

LAW 266
Property
Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 267
Criminal Law
Broad functions of criminal and tort law, the problems in Agency and Employment, the breadth of functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure. Prerequisite: LAW 251
3 semester hours

LAW 268
Environmental Law
Environmental law, toxic torts.
3 semester hours

LAW 269
Torts
Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior or senior status.
3 semester hours

LAW 270
Property
Property, Real Property, including Landlord and Tenant, and Estates and Wills).
3 semester hours

LAW 271
Criminal Law
Broad functions of criminal and tort law, the problems in Agency and Employment, the breadth of functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure. Prerequisite: LAW 251
3 semester hours

LAW 272
Environmental Law
Environmental law, toxic torts.
3 semester hours

LAW 273
Torts
Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior or senior status.
3 semester hours

Management and Industrial Relations

MANAGEMENT 300
Interpersonal and Group Behavior in Organizations
The student is introduced to behavior in organizations on interpersonal, group and intergroup levels. Group process is examined on both conceptual and experiential levels to enhance understanding of interpersonal and group processes, as well as to test and hone individual interpersonal and group participation skill. Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior or senior status.
3 semester hours

MANAGEMENT 301
Operations Management
The student is introduced to the basic tools and concepts used in managing the delivery of products and services. Inventory cost control, work flow design, development of work standards, workplace layout, quality control, project management, forecasting, capital investment planning, capacity policy and related methods for management of operations are presented in this course. Prerequisite: junior or senior status.
3 semester hours

MANAGEMENT 302
Multicultural Management
This course introduces students to the basics of organization and management theory, as they apply to the global market place. A cross-cultural approach is used to examine the similarities, differences and application of theory across national boundaries, and to identify those structural constants that permit business to be conducted on a global scale. Organization culture, role structure, coordination and control methods, leadership, and business strategy are the basic theoretical constructs introduced and evaluated in the course. Prerequisite: junior or senior status.
3 semester hours

MANAGEMENT 305
Human Resource Issues in Management
The student is introduced to current theory, research and practice in the management of human resources in organizations. Job design, recruitment, selection, performance feedback, goal setting, training, employee rights, safety, compensation and benefits issues are reviewed within the context of their application in the US as a world standard for such practices, with comparisons to customs and practices in the international arena. Prerequisite: MGMT 302; junior or senior status.
3 semester hours

MANAGEMENT 311
Comp and Benefit Administration
Students in this course will examine the major foundation programs and skills that underlie the current practice of Human Resource Management. Theory and method used in the design of compensation systems is explored, interviewing method and skill as applied to data gathering for problem solving or personnel selection, surveys for compensation benchmarking or employee attitude measurement, and development of performance feedback and goal setting (MBO) programs are intensively reviewed. Student projects in program applications are required. Prerequisite: MGMT 302; junior or senior status.
3 semester hours

HUMANITIES C201A
The American Dreamer
An interdisciplinary course which employs history, literature and philosophy to examine and explain the cultures and values of a civilization over time and place. Works studied include primary historical and philosophical texts, as well as literary and artistic creations. Currently, the course looks at the civilization of the United States, focusing on the “American Dream,” its origins, growth and significance. This is a Core Heritage Course. Prerequisite: English C101 or department permission.
3 semester hours

HUMANITIES 300
Seminar
An interdisciplinary and thematic seminar that focuses on the different approaches of history, literature, and philosophy to a common theme or text.
3 semester hours

HUMANITIES 395
Thesis
The student will work closely with his or her academic advisor on a mutually acceptable project involving serious research.
3 semester hours

HUMANITIES C201A
The American Dreamer
An interdisciplinary course which employs history, literature and philosophy to examine and explain the cultures and values of a civilization over time and place. Works studied include primary historical and philosophical texts, as well as literary and artistic creations. Currently, the course looks at the civilization of the United States, focusing on the “American Dream,” its origins, growth and significance. This is a Core Heritage Course. Prerequisite: English C101 or department permission.
3 semester hours
Management and Industrial Relations • Marketing

MANAGEMENT 320  
Entrepreneurship and Small Business Management  
For starting or buying a new business, it is critical to develop practical business plans, obtain financing, develop a marketing plan, project cash flow, organize the business, and develop financial controls to take advantage of opportunities in both domestic and international markets. Work is done in teams and computer analysis is used. Prerequisites: ACCT 102, MKGT 305, and MGMT 302.  
3 semester hours

MANAGEMENT 330  
Leadership Lessons from the Movies  
In this course students watch a variety of movies to examine the dynamics of leadership. Organizations and work units rise and fall based on leadership. Leaders must influence other people to accomplish organizational goals in a way that often entails self-sacrifice and living for the sake of others.  
3 semester hours

MANAGEMENT 340  
Conflict and Negotiation  
The development of conflict-management and negotiating skills with particular emphasis on achieving effective and efficient outcomes within a global and multi-cultural context. Experiential exercises, readings and discussions will demonstrate various strategies for a broad range of negotiating scenarios, e.g., buyer-seller, management-labor, personal salary increase, cross-national, etc. Prerequisite: junior or senior status.  
3 semester hours

MANAGEMENT 342  
Labor Law and Arbitration  
Modern labor legislation and its practical impact on present relations between labor and management. Increasing role of government through federal statutes and agencies. Historical background, principles, procedures and judicial aspects of arbitration process. Nature and function of arbitration; powers of arbitrator; and arbitration cases. Prerequisite: MGMT 305; junior or senior status.  
3 semester hours

MANAGEMENT 350  
Business Policy and Strategy  
A study of decision-making including integrating analyses and policy determination at the overall management level. Students search for new knowledge and solutions to long and short term problems and opportunities in specific businesses. The coordination, integration and innovative application of theory and methods learned in previous courses are the tools of research. Accordingly, the final examination of each course shall constitute, therefore, an outcome assessment of what the student has learned in the program. This examination, normally an extensive and comprehensive case study, will be graded by several faculty members representing different and relevant disciplines.  
3 semester hours; open only to seniors

The following courses are suggested for those students who wish to take elective courses in other disciplines which are related to or useful in the practice of management:  
Communication in Industry. —See MCOMM 385.  
Industrial Psychology. —See PSYC 309.  
Social Psychology. —See PSYC 305.  
Tests and Measurements. —See PSYC 323.

Marketing

MARKETING 305  
Principles of Marketing  
The scope and significance of marketing. The retailing and wholesaling of consumer goods. Marketing agricultural and industrial goods. Marketing policies and practices of business firms. Prerequisite: junior or senior status.  
3 semester hours

MARKETING 306  
Consumer Behavior  
A qualitative analysis of marketing as a system for the satisfaction of human wants. The contribution of psychologists, sociologists, anthropologists, and other behavioral scientists to the understanding of consumer behavior. Such topics as motivation, learning, life-cycle and social-class analysis, culture and custom. Prerequisite: junior or senior status.  
3 semester hours

MARKETING 307  
Management of Promotion  
Advertising, personal selling, trade support, and public relations as elements of strategy. Situation analysis planning, execution, and evaluation of promotional campaigns. Social responsibilities of the firm and some of its ethical problems. The impact of consumerism. Prerequisite: MKGT 305; junior or senior status.  
3 semester hours

MARKETING 308  
Marketing Research  
Objectives, techniques, and limitations of library and field research applied to advertising, retailing, or sales management problems. Assignment of group projects requiring considerable initiative and resourcefulness. Measurements of individual accomplishment by both group activity and individual evaluation of the project. Prerequisites: MGMT 120 and MKGT 305; junior or senior status.  
3 semester hours

MARKETING 310  
Service Marketing  
Marketing in service industries, stressing the unique problems of marketing intangibles. This course focuses on the development, implementation and control of strategy, systems and people for effective service operations. Case studies are selected from professional services, transportation, hotels and resorts, and various other retail services. Prerequisite: MKGT 305.  
3 semester hours

MARKETING 319  
Advertising Management  
A critique of advertising from the viewpoint of management. Case problem-solving of situations that have confronted businessmen. The impact of advertising on demand for products and services. Principal problems in the building, implementing and evaluating of advertising programs. Prerequisite: MKGT 305. Junior or senior status.  
3 semester hours

MARKETING 325  
Sales Management  
Management of manufacturer’s salesmen. Sales department organization. Selecting, training, compensating, and supervising salesmen. Sales territories, travel expenses, quotas, and budgets. Principles are applied to concrete problems. Prerequisite: MKGT 305; junior or senior status.  
3 semester hours
MARKETING 339
Retailing Management
Use of the case method to analyze and solve problems faced by senior retail executives. Case histories set forth detailed background information to train the student in developing alternative solutions and choosing from among them. Cases in each of the major fields of retail management, merchandising, publicity, personnel, control, and service activities. Prerequisite: MKGT 305; junior or senior status.
3 semester hours

MARKETING 342
Multinational Marketing
Lecture and case studies, exploring cultural, political, economic and legal aspects of the development and operation of companies marketing overseas. Planning, organizing, controlling, and promoting for industrial and consumer goods. Prerequisite: junior or senior status.
3 semester hours

MARKETING 350
Marketing Management
The nature and scope of marketing management. The interpretation of environmental factors affecting marketing decisions and application of managerial concepts to marketing strategy. Adaptation of resources and objectives in the development of marketing plans. Prerequisite: junior or senior status.
3 semester hours

Martial Arts Studies

MARTIAL ARTS STUDIES 110
Taekwondo Practicum 1
This is an introduction to Taekwondo, commencing with instructions in essential classroom etiquette and training rules. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 1 & 2 as well as white belt Hammer Fist and Axe kick breaking techniques, and yellow belt Palm Fist and Front Snap kick breaking techniques.
1 semester hour

MARTIAL ARTS STUDIES 111
Taekwondo Practicum 2
This level of Taekwondo training focuses on the adaptation of the body to martial art training. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 3 & 4, self defense techniques No. 3 & 4, kicking techniques with a focus on the Roundhouse kick and Side kick, sparring techniques with a focus on orange belt Elbow strike and Roundhouse kick breaking techniques and green belt Straight punch and Side kick breaking techniques.
1 semester hour

MARTIAL ARTS STUDIES 112
Taekwondo Practicum 3
This course focuses on enhancing the student’s ability to maintain and increase physical balance. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 5 & 6 (20 motions No. 5 & 23 motions No. 6, guiding themes “wind & flowing like water”), self defense techniques No. 5 & 6, kicking techniques with a focus on the Back kick and Hook kick, sparring techniques with a focus on 1:1 basic sparring, blue belt Back fist and Back kick breaking techniques and brown belt Knife hand and Hook kick breaking techniques.
1 semester hour

MARTIAL ARTS STUDIES 114
Taekwondo Practicum 4
This Taekwondo class will focus on enhancing concentration skills. Through this course, students are expected to achieve mastery of Taekwondo form Taegeuk No. 7, self defense technique No. 7, kicking techniques with a focus on the Back Spin Hook kick, sparring techniques with a focus on basic skill sparring, breaking techniques of Half Knuckle punch and Back Spin Hook kick. At the completion of this course, there will be a 1st degree black belt test for participating students.
1 semester hour

MARTIAL ARTS STUDIES 121
Taiji Practicum 1
This course introduces the student to Martial Arts of Taiji including the performance of the first part of the Yang Style short form. It includes an introduction to Taiji principles, and will work to expand the student’s range of motion, coordination, and introduce students to Qigong level 1 training on exercises one to five. It will introduce and compare the major Taiji styles and note how they differ from each other. Fighting applications of Taiji (as well as the health applications) will be presented. The concepts of flexibility and range of motion are introduced as tools to explain Taiji’s principles. Practicum 1 will also introduce physical principles of head suspended; the pelvis tucked in with toe in and knee out; relaxed execution of smooth movements; exercises for overall coordination of the body and the mind-body connection. This practicum presents the first 16 movements of the Yang Style Short Form. Students will learn to demonstrate the 16 movements and begin to incorporate the physical principles into the 16 Taiji movements. Students will learn the horse stance and bow stance and be introduced to the role that they play in Taiji movements. Emphasis is on slow and relaxed movement of the body as a single coordinated unit.
1 semester hour

MARTIAL ARTS STUDIES 122
Taiji Practicum 2
This course will include form correction of the first part of the Yang Style Short Form, further analysis of Taiji principles and a detailed application and study of the meaning of Taiji movements. Form correction incorporates the concept of qi into movement and into the execution of the form. The focus is on correctly executing the first 16 moves while observing Taiji’s physical principles. This course will include body strengthening and alignment using Qigong training on exercises six to twelve. It also introduces the physical principles of the seesaw movement and the concave chest. Additional instruction is provided to strengthen the body to maintain proper alignment and balance throughout the form. Form correction further seeks to eliminate the reinforcement of poor execution caused by repeating incorrect form movements in the early stages of Taiji training. Taiji 2 expands basic Qigong training by introducing Qigong exercises to promote alignment and strength. Prerequisite: Marts 121 or Instructor’s Approval based on Testing.
1 semester hour

MARTIAL ARTS STUDIES 123
Taiji Practicum 3
This course will introduce students to the second part of the Yang Style Short Form. Students will learn to incorporate Taiji principles into the form. At this stage, greater emphasis will be placed on integrated body movement and mind power (concentration) to move the body as a single unit and will include Qigong training level 3 on the entire set of exercises one to twelve. Taiji 3 reinforces the understanding of the physical principles (head suspended; pelvis tucked in with toe in and knee out; chest
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concave; body rounded; shoulders lowered; waist loose; ‘qua’ loose; and deep breathing). It introduces the skills required to incorporate the principles into Taiji learning and practice. The concepts of flexibility and range of motion are presented for discussion and written assignments. Research methods will be introduced to permit independent gathering of Taiji information for study and personal growth. Taiji also presents Qigong training, continuing to prepare students physically for proper Taiji execution. Qigong exercises are more strenuous and are aimed at greater flexibility with longer strength-training periods. Prerequisite: Marts 122 or Instructor's Approval based on Testing. 

1 semester hour

MARTIAL ARTS STUDIES 214
Taiji Practicum 4
This course will introduce the third part of the Yang Style Short Form. It will incorporate breathing techniques into the form and will introduce the concept of form assessment for the incorporation and execution of Taiji principles. It will build on earlier training to begin to introduce the martial arts applications of Taiji in preparation for push hands classes and Qigong training level 4 on the entire set (exercises one to twelve). This course will begin to prepare students to assume leadership roles in higher levels of study. Taiji 4 reviews Taiji’s principles and communicates how the Taiji form performance is assessed based on the principles. Both the self-defense aspects and the self-cultivation aspects (of body, mind & spirit) of the Yang Style Short Form will be presented. The class will stress ongoing individual Taiji training and students will be encouraged to develop individual Taiji training formats. This class also presents training and information required to lead Qigong classes on the entire set of twelve exercises. Prerequisite: Marts 123 or Instructor’s Approval based on Testing. 

1 semester hour

MARTIAL ARTS STUDIES 212
The History of Martial Arts
This course traces the origins, growth and diversification of the Martial Arts in China, Korea and Japan. Emphasis is placed on the evidence of primary historical texts, including the Five Classics of pre-Qin China as well as early histories of Korea and Japan such as the Samguk Yusa and the Kojiki. The historical information gleaned from these sources is compared to the narratives and mythologies passed down through the written and oral traditions of the various schools. We examine the unfolding of the Shaolin Gongfu schools influenced by Chan as well as the Wudang tradition influenced by Daoism, the emergence of Martial Arts in the Hwarang movement of the Korean Silla kingdom and their revival after the Japanese occupation, and the transformation of Gongfu traditions in Japan via Okinawa. 

3 semester hours

MARTIAL ARTS STUDIES 213
Martial Arts and East Asian Thought
This course examines the impact of East Asian philosophy and religion on the Martial Arts. The course begins by outlining the major teachings of Buddhism, Daoism, and to a lesser extent, Confucianism, focusing on key classics. Following this we will explore the ways in which these teachings came to influence what was originally a martial tradition, resulting in a variety of complex systems that placed greater emphasis on mental as well as physical powers, self-cultivation and personal fulfillment. 

3 semester hours

MARTIAL ARTS STUDIES 214
Daoism and Taiji
This course will examine both the historical and conceptual relationship between Daoism and Taiji. It will examine ways in which key concepts of Daoism are reflected in Taiji practice. In the study of the history of the relationship between Daoism and Taiji, we will note the differences between the received tradition of this relationship (as transmitted from master to student in the pedagogical process) versus historical documentation that, through primary sources, independently confirms the longstanding ties between the two. In the review of the linkage between Daoism and Taiji we will focus on the cosmology of the Book of Changes, which informs the conceptual framework of Taiji, as well as influential Daoist concepts such as Wu Wei (No Action), Yin and Yang and passive values as depicted in the Laozi, Zhuangzi, the Book of Changes, and the Taijiquan Treatise. 

3 semester hours

MARTIAL ARTS STUDIES 215
Issues in Taiji
This course invites students to be participants in a discussion on the challenges faced by Taiji at this stage of its one thousand year history. Through selected readings and class discussions students will consider pertinent issues such as the ongoing division among the styles of Taiji and various perceptions of Taiji in modern society (e.g., the view of Taiji as primarily an activity for seniors and the perception that Taiji is disengaged from the world). Furthermore, it will invite students to consider ways in which the study of Taiji can contribute to academic discourse, to the improvement of social well-being, and to the future direction of society. 

3 semester hours

MARTIAL ARTS STUDIES 235
Issues in Taekwondo
This course invites students to consider the challenges faced by Taekwondo at this stage in its history. Through selected readings and class discussions students will consider such pertinent issues as the perception of Taekwondo as an overly aggressive sport or as an unregulated industry, far removed from the ideals of its progenitors. Discussion will also consider ways in which Taekwondo has been transformed through its assimilation into academia and into non-Korean society. Participants will consider the impact that Taekwondo has had on youth in the United States and will examine whether and how it might make a positive contribution towards the problems that they face. 

3 semester hours

MARTIAL ARTS STUDIES 241
Taekwondo Practicum 5
This level of Taekwondo training focuses on the cultivation of self-control. Through this course, students are expected to achieve mastery of Taekwondo forms Go-Ryo & Pal-Gae No. 1, intermediate self defense techniques No. 1 & 2, kicking technique and board breaking with a focus on the Jump Axe kick and Jump Front kick, sparring techniques with a focus on Olympic style sparring offense combination skills, 1st degree black belt (level 7) Jump Axe kick breaking techniques and 1st degree black belt level 6 belt Jump Front kick breaking techniques. 

1 semester hour

MARTIAL ARTS STUDIES 245
Taekwondo Practicum 6
This level of Taekwondo training focuses on the cultivation of self-confidence.
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Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 2 & 3, intermediate self-defense techniques No. 3 & 4, kicking techniques with a focus on the Jump Roundhouse kick and Jump Side kick, sparring techniques with a focus on Olympic style sparring defense combination skills, 1st degree black belt level 5 Jump Roundhouse kick breaking techniques and 1st degree black belt level 4 belt Jump Side kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 243
Taekwondo Practicum 7
This level of Taekwondo training focuses on the cultivation of patience and endurance. Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 4 & 5, intermediate self-defense techniques No. 5 & 6, kicking technique with a focus on the Jump Back kick and Jump Hook kick, sparring techniques with a focus on Olympic style sparring offense and defense combination skills, 1st degree black belt level 3 Jump Back kick breaking techniques and 1st degree black belt level 2 belt Jump Hook kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 244
Taekwondo Practicum 8
This level of Taekwondo training focuses on the cultivation of self-esteem as well as self-control. Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 6 (guiding theme “water”), intermediate self-defense technique No. 7, kicking techniques with a focus on the Jump Back Spinning Hook kick, sparring techniques with a focus on Olympic style sparring offense and defense combination skills and hand combination techniques, 1st degree black belt level 1 breaking Jump Back Spinning Hook kick techniques. After this level is completed, there will be the 2nd degree black belt test including a Martial Arts Essay test.

1 semester hour

MARTIAL ARTS STUDIES 251
Taiji Practicum 5
Practicum 5 introduces the ways in which beginning fighting techniques rely on movement from the Short Form. The intermediate practica (practica 5-8) are meant to provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training is divided into 4 levels designed to educate students in basic self-defense techniques and internal strength training up to the competitive Martial Artist level. Practicum 5 emphasizes coordination and flexibility. In Practicum 5 students begin the practice of the push hands and are introduced to the fast form that consists of set routines of defense, repositioning, attacks, movements and strikes. Prerequisite: MARTS 124 or Instructor’s Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 252
Taiji Practicum 6
Practicum 6 dedicates special attention to the philosophy and practice of Qi Gong for the purpose of cultivating qi and improving self-defense and short form skills. Self-defense on this level includes the study of yielding and sticking to neutralize an attacker’s strength and skills. The intermediate practica provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training is divided into 4 levels designed to educate students in basic self-defense techniques and internal strength training up to the competitive Martial Artist level. Practicum 6 also emphasizes correction and improvement of the Short Form. Prerequisite: MARTS 251 or Instructor’s Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 253
Taiji Practicum 7
Practicum 7 focuses on the application of the short form for self-defense and it also emphasizes continued Short Form improvement. The intermediate practica (5-8) provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training on this level is meant to help to prepare with the basic self-defense techniques and internal strength training needed to begin to compete on the level of a Taiji Martial Artist. Prerequisite: MARTS 252 or Instructor’s Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 254
Taiji Practicum 8
Practicum 8 is meant to complete students’ training in basic self-defense techniques and internal strength training to the level needed to be a Martial Artist who can participate in Taiji competitions. Practicum 8 focuses on Punching & kicking techniques, footwork and endurance training. It also emphasizes correction and preparation of the Short Form for demonstration. In preparing students for graduation, Practicum 8 provides a comprehensive review of the Taiji topics and techniques introduced in earlier practica. Prerequisite: MARTS 253 or Instructor’s Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 261
Psychosocial Aspects of Martial Arts
The present course introduces students to the Western concepts of psychosocial development and self-actualization and to the East Asian concept of self-cultivation. It then identifies the character development objectives of three different martial arts—Taiji, Taekwondo, and Judo. It follows with an examination of research on the psychological impact of practicing martial arts, with an emphasis on self-concept, self-esteem, mood, phenomenology, psychological health, psychotherapeutic outcomes, and self-actualization. In addition, the course examines the impact of the martial arts on aggression and hostility, sex discrimination and feminist awareness, and traditionalism versus modernization.

3 semester hours

MARTIAL ARTS STUDIES 278
Survey of the Martial Arts
This course introduces the theoretical foundations of a variety of Martial Arts, including Taiji, Gongfu, Taekwondo, Hapkido, Karate, Judo, and Ju-jitsu. Through video, demonstrations, and other modalities students will also be exposed to the major techniques used in each of the Martial Arts introduced.

3 semester hours

MARTIAL ARTS STUDIES 311
Communication and Martial Arts
This course is designed to introduce Martial Arts Studies students to the concepts and practices of intercultural communication. Topics will include Martial Arts and non-verbal communication, Martial Arts and verbal communication, the influence of culture on communication and intercultural conflict resolution. The course will be conducted in the context of the martial artist as a leader and as a communicator. The martial artist will be
viewed as a communicator both in the role of instructor and in the role of manager.

3 semester hours

MARTIAL ARTS STUDIES 312
Image and Reality in the Martial Arts
This course explores popular concepts about the Martial Arts as depicted in modern media, particularly cinema and television, and contrasts them with historical and literary perspectives drawn from East Asian classics and Martial Arts texts.

3 semester hours

MARTIAL ARTS STUDIES 319
Taekwondo Practicum 9
This level of Taekwondo training focuses on enhancing team spirit and cooperation. Through this course, students are expected to achieve mastery of Taekwondo form Keumkang (guiding theme “wisdom and virtuosity”), advanced self defense techniques No. 1 & 2, kicking technique with a focus on the Double Front kick and Double Roundhouse kick, sparring techniques with a focus on Olympic style offense strategy skills, 2nd degree black belt level 7 Double Front kick breaking techniques and 2nd degree black belt level 6 belt Double Roundhouse kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 320
Taekwondo Practicum 10
This level of Taekwondo training focuses on cultivating the sense of personal achievement. Through this course, students are expected to achieve mastery of Taekwondo form Taebak (guiding theme “human”), advanced self defense techniques No. 3 & 4, kicking technique with a focus on the Double Side kick and Double Back kick, sparring techniques with a focus on Olympic style defense strategy skills, 2nd degree black belt level 5 Double Side kick breaking techniques and 2nd degree black belt level 4 belt Double Back kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 321
Taekwondo Practicum 11
This level of Taekwondo training focuses on cultivating dedication to goals and ideals. Through this course, students are expected to achieve mastery of Taekwondo form Cheonkwon (guiding theme “universal”), high advanced self defense techniques No. 3 & 4, kicking technique with a focus on the Jump Split Front kick & Jump 360° Back Kick, sparring techniques with a focus on free style offense sparring. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 322
Taekwondo Practicum 12
This level of Taekwondo training focuses on cultivating humility. Through this course, students are expected to achieve mastery of Taekwondo form Keumkang (guiding theme “wisdom and virtuosity”), advanced self defense techniques No. 7, kicking technique with a focus on the Tornado kick, sparring techniques with a focus on Olympic style psychological strategy skills, 2nd degree black belt level 1 breaking techniques of Tornado kick. After this level is completed, there will be the 3rd degree black belt test including a Martial Arts Essay test. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 323
Taekwondo Practicum 13
This level of Taekwondo training focuses on enhancing the sense of magnanimity and service to others. Through this course, students are expected to achieve mastery of Taekwondo form Jitae (guiding theme “human and nature”), high advanced self defense techniques No. 1 & 2, kicking techniques with a focus on the Jump Point kick and Jump Scissor kick, sparring techniques with a focus on free style offense defense sparring, 3rd degree black belt level 7 Jump Point kick breaking techniques and 3rd degree black belt level 6 belt Jump Scissor kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 324
Taekwondo Practicum 14
This level of Taekwondo training focuses on consolidating the various aspects of self cultivation. Through this course, students are expected to achieve mastery of Taekwondo form Ilyo (guiding theme “mind/body unity”), high advanced self defense techniques No. 7, kicking technique with a focus on the Creative kick, sparring techniques with a focus on the meaning of sparring, 3rd degree black belt level 1 Creative kick breaking techniques. Upon the completion of this level, students will have the 4th degree black belt test including both a practical test and a written examination. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 325
Taekwondo Practicum 15
This level of Taekwondo training focuses on the cultivation of ethical thinking. Through this course, students are expected to achieve mastery of Taekwondo form Hansoo (guiding theme “water”), high advanced self defense techniques No. 5 & 6, kicking technique with a focus on the Jump Triple Front kick & Jump Triple Roundhouse kick, sparring techniques with a focus on free style offense defense combination sparring, 3rd degree black belt level 5 Jump Triple Front kick breaking techniques and 3rd degree black belt level 2 belt Jump Triple Roundhouse kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 326
Taekwondo Practicum 16
This level of Taekwondo training focuses on consolidating the various aspects of self cultivation. Through this course, students are expected to achieve mastery of Taekwondo form Ilgan (guiding theme “universal”), high advanced self defense techniques No. 7, kicking technique with a focus on the Creative kick, sparring techniques with a focus on the meaning of sparring, 3rd degree black belt level 1 Creative kick breaking techniques. Upon the completion of this level, students will have the 4th degree black belt test including both a practical test and a written examination. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 330
Internship
Senior level students of the Martial Arts Studies degree program should complete an internship at an established Martial Arts school or in a business, or government agency. The
internship will be complemented by a written report and will be done under the supervision of a professor.

3 semester hours

MARTIAL ARTS STUDIES 340
Senior Thesis or Presentation
The senior thesis or a creative presentation based on the Martial Arts emphasizes research and research methods. This course may only be taken after having completed 90 semester hours or more in the program. If a student elects to write a thesis, his/her work will be expected to demonstrate a theoretical understanding of the Martial Arts (e.g., technical, philosophical, and historical) and the relationship with the broader cultural, philosophical, and social context in which they evolved. Independent research and creative thinking will be emphasized as well as the ability to gather and conduct research and formulate a position in a critical and analytical manner.

Students choosing to do a presentation based on their Martial Arts skills would normally do so both to demonstrate their technical mastery of the Martial Arts as well as their creativity. The senior presentation might consist of projects such as the creation and performance of a new form or the adaptation of a Martial Arts form to music or to poetry. The presentation should show ways in which the Martial Arts contribute to a broader socio-cultural context.

3 semester hours

MARTIAL ARTS STUDIES 351
Taiji Practicum 9
Practicum 9 focuses on the first part of the Long Form with an emphasis on continuity of movement and on new moves not included in the Short Form. Practicum 9 and above are designed for students who enter the Martial Arts of Taiji track with advanced standing. Beginning with this practicum, systematic training is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

In practicum 9 students are also introduced to the Qi Gong 5 exercise set. Prerequisite: MARTS 254 Taiji Practicum 8 or successful testing into the program for those who studied Taiji prior to coming to the University of Bridgeport.

1 semester hour

MARTIAL ARTS STUDIES 352
Taiji Practicum 10
Practicum 10 introduces the second part of the Long Form. Systematic training in this practicum is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi. Practicum 10 again stresses continuity of movement, coordination and presents new Taiji movements that are not found in the Short Form. Students are also introduced to the Qi Gong 10 exercise set. Prerequisite: MARTS 351 Taiji Practicum 9.

1 semester hour

MARTIAL ARTS STUDIES 353
Taiji Practicum 11
In practicum 11 students are introduced to the third part of the Long Form. Systematic training in advanced practica is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

In practicum 11 stresses continuity of movement and coordination. In this Practicum, students are introduced to additional new Long Form movements, not included in the Short Form. They continue the study and application of the Qi Gong 10 exercise set. Prerequisite: MARTS 352 Taiji Practicum 10.

1 semester hour

MARTIAL ARTS STUDIES 354
Taiji Practicum 12
Practicum 12 introduces advanced Taiji fighting techniques. Systematic training in practica 9-16 is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

Practicum 12 continues the Qi Gong 10 exercise set. The advanced practa provide a comprehensive grasp of Taiji through the acquisition of sets of advanced techniques. Systematic training in practica 9-16 is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

Practicum 12 continues the study and application of the Qi Gong 10 exercise set. Prerequisite: MARTS 353 Taiji Practicum 11.

1 semester hour

MARTIAL ARTS STUDIES 355
Taiji Practicum 13
Practicum 13, along with continuing the study of Long Form technique, provides an introduction to the role of meditation in martial arts and introduces meditation techniques. Each advanced practicum represents an additional step toward the student developing a comprehensive grasp of Taiji through the acquisition of sets of advanced techniques. Systematic training in practica 9-16 is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

Practicum 13 continues the study and application of the Qi Gong 10 exercise set. Prerequisite: MARTS 356 Taiji Practicum 14.

1 semester hour

MARTIAL ARTS STUDIES 356
Taiji Practicum 14
Practicum 14 introduces advanced Taiji fighting techniques. Systematic training in practica 9-16 is designed to build on basic and intermediate Taiji knowledge in self-defense and in physical strength training to bring students to the level of accomplished Martial Artists. Study includes emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi.

In practicum 14 light contact sparring and introduces students to the role that the forms play in self-defense. Prerequisite: MARTS 355 Taiji Practicum 13.

1 semester hour

MARTIAL ARTS STUDIES 357
Taiji Practicum 15
Practicum 15 continues the systematic training designed to build on basic and intermediate Taiji knowledge in self-defense and physical strength training to help bring students to the level of accomplished Martial Artists. In Practicum 15 students are introduced to the philosophy of qi and are provided with an understanding of how qi relates to the meridian chart, to alignment, and to the body's internal systems.

Practicum 15 continues the study and application of the Qi Gong 10 exercise set. Prerequisite: MARTS 356 Taiji Practicum 14.

1 semester hour

MARTIAL ARTS STUDIES 358
Taiji Practicum 16
Practicum 16 represents the highest level of training in Taiji at the University. It is meant to contribute to the students' comprehensive grasp of Taiji because of their acquisition of proficiency in sets of advanced techniques.
This course is meant to build on basic and intermediate Taiji knowledge in self defense and in physical strength training in previous practica to bring students to the level of accomplished Martial Artists. Study in this practicum continues the emphasis on self-cultivation (body and mind), internal strength training and cultivation of qi. Practicum 16 prepares each student to perform a demonstration of the combined Long and Short forms. This practicum serves as a comprehensive review of Taiji topics and techniques prior to graduation. Prerequisite: MARTS 357 Taiji Practicum 15.

1 semester hour

**Mass Communication**

**MASS COMMUNICATION 110**

**Public Communication**

The process and variables of everyday public address are examined through situations, content, presentation strategies and effects, and by classroom practice in the basic principles of oral communication.

3 semester hours

**MASS COMMUNICATION 111**

**Introduction to Mass Communication**

The role and function of the mass media. Survey of newspapers, magazines, books, radio, television, film, advertising and public relations. Criticism, challenges and professional opportunities.

3 semester hours

**MASS COMMUNICATION 200**

**Co-Operative Education**

Professional, supervised work in an organization related to career goals. Prerequisite: Permission of department required.

1-3 semester hours

**MASS COMMUNICATION 201**

**Persuasive Communication**

Study of communication as a form of influence; the process and functions involved, its potential and limitations; social and personality factors related to persuasibility, attitude formation and change. Students will analyze and present persuasive messages.

3 semester hours

**MASS COMMUNICATION 205**

**Interpersonal Communication**

An introductory survey of interpersonal communication theories and their application to face-to-face, group, organizational and mediated contexts. The classroom becomes a laboratory for gaining knowledge of the processes of communication, perception, language and meaning.

3 semester hours

**MASS COMMUNICATION 211**

**Communication Theory**

An examination of communication theories which includes theories on verbal communication, nonverbal communication, interpersonal communication, self-concept, relationship development, influence, conflict, group communication, decision-making, gender communication, organizational communication, intercultural communication, and media communication.

3 semester hours

**MASS COMMUNICATION 218**

**Media Aesthetics**

The artistic philosophy and practical applications of creating effective media. This is a hands-on laboratory course. The study focuses on aesthetics as a physical expression of creative and marketing goals and how this is put into practice when communicating messages through images and words. Subjects include compositional strategy, visual literacy and message design. This knowledge shapes design critical to working in new media and every other type of media produced—documents, ads, brochures, video, proposals, and more. This course will offer an introduction to Photoshop. Instructor's permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 220**

**Introduction to Advertising**

An examination of the theories and practices of advertising. Historical, legal, and social psychological aspects of advertising. Advertising explored from both client side and agency side perspectives. Instructor’s permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 235**

**Writing for Media**

This course is an introduction to media writing. Students will practice writing and editing news, public relations materials, broadcast scripts, and advertising copy. It includes a grammar and style review specifically for print and interactive media.

3 semester hours

**MASS COMMUNICATION 240**

**News Reporting & Writing**

Introduction to reporting techniques – sources of news, interviewing, public document and database searches – and their application in writing various forms of news stories. Instructor’s permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 242**

**Introduction to New Media**

An overture to computer-based media, technology and the digital information age. This primer includes history, current digital media, a look at technology trends and the future of digital media. Topics include computers—their origins and functions; hardware and software; file management; networks; data security; E-Commerce; the Internet—its history and development; the basis of interactivity between humans and machines, and machine to machine; and other timely issues. Instructor’s permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 247**

**Fashion Journalism**

This course covers the basic elements of fashion journalism for magazines (women’s and men’s) and newspapers. Students will analyze examples of fashion journalism and will learn fashion writing, photo shoot coordination (planning, styling, budgeting, etc.), and copy preparation. Instructor’s permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 251**

**Sports Journalism**

It covers both sports writing and sports broadcasting. Learn skills of reporting of competition and play-by-play coverage, communicating about sports through word and image, commentary, and interview skills. Instructor’s permission may be required for this course.

3 semester hours

**MASS COMMUNICATION 252**

**Introduction to Web Publishing**

A comprehensive overview in planning, organizing and creating a web site. The course features emphasis on creative and communications imperatives in web page creation including design, layout, navigation and usability. This course offers the use of Dreamweaver. Topics include web site types, structures, the...
importance of the home page, understanding screen real estate and how to use it effectively, white space, typography, titles and headlines, search engines and how to get listed and many other issues and topics related to effective web page creation. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 255
Sports Business and Marketing
This course provides an overview of major sports business issues. It covers professional, Olympic, collegiate sports, studies sports as a business, and discusses sports marketing, promotion, and sports sponsorships. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 262
Writing for Interactive Media
Understanding the Internet as an information vehicle and how the role of the writer is more than just creating strong text. This course offers discussion and hands-on work in the art and science of effective organization, preparation, writing and editing for the interactive media audience. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 270
Public Relations
Current practices and problems, with emphasis on the role of the public relations practitioner as a specialist in communications, analyst of public opinion, and counselor to the major sponsors of public communication. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 272
Creating Digital Media
From pre-production through post-production, video production technique for digital media is explored. Lectures and projects will lead students to a greater understanding of message direction, aesthetics and finessing a project through conclusion. This course is designed as an introductory primer to the creation of digital video. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 284
Business and Professional Communications
Understanding and development of communications skills necessary for individuals to function effectively in business and corporate roles. Special consideration given to the verbal and nonverbal elements of the work situation: barriers to communications, listening skills, interviewing, instructional skills, forms of negotiation, technical reports, and principles of group behavior. Students’ skills are assessed relative to the levels of communication required in various career areas and cultural milieus.

3 semester hours

MASS COMMUNICATION 286
Magazine and Feature Writing
An in-depth experience of writing for periodicals. Topics include characteristics, preferences and composition and how that information is obtained and used in planning media strategy in advertising. Topics include characteristics and evaluation of major media rates and sources of information; problems of coverage, duplication, costs and scheduling. Instructor’s permission may be required for this course.

3 semester hours

MASS COMMUNICATION 290
Intercultural Communication
Study of basic concepts, theories, and practices of intercultural communication, including elements of cultural systems, social identification and group relations, influence of culture, language and culture, nonverbal communication, intercultural negotiation, and intercultural conflict resolution. Intercultural communication as applied to interpersonal communication, group communication, organizational communication, public communication, and mass communication. Communication principles will be applied to intercultural interaction so that misunderstanding, prejudice, stereotypes, and discrimination can be reduced or eliminated.

3 semester hours

MASS COMMUNICATION 293
Argumentation and Debate
Knowledge and practice in the craft of research and reasoning in argumentative communication. Practice in analysis, evidence, briefing, refutation, and delivery of arguments.

3 semester hours

MASS COMMUNICATION 303
Communication and Group Decision-Making
Study of group communication patterns, group functions, group dynamics, and theories of group communication. Special attention given to listening, formation of messages, critical thinking, decision-making process, leadership, group conflicts, problem solving, and techniques for effective group communication.

3 semester hours

MASS COMMUNICATION 306
Advertising Copywriting
Critical study and application of communication principles and concepts as applied to planning and preparing advertising messages. Intuitive verses research based aspects of advertising creativity. Writing and visual-
Mass Communication

preparation needed for this medium. Principles of advocacy and rhetoric and their relevance in the news media are explored. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 342
Digital Project Management
Students work in teams to create and produce an original web site or extensively improve an existing one, working in conjunction with a real-world client. The work is performed in a real-life, deadline driven environment and will produce a portfolio piece for those entering the field of digital media. Students learn the roles and duties of those who work on interactive teams. Instructor's permission may be required for this course. Prerequisite: MCOM 252 Introduction to Web Publishing 3 semester hours

MASS COMMUNICATION 345
Newspaper Editing and Production
Principles of editing in print media. The editorial process from selection of editorial materials to publication. Analysis of contemporary editing styles. Preparation of materials for production, including copyediting, writing headlines and designing newspaper pages. Legal and ethical issues confronting newspaper editors. The editor-writer relationship. Laboratory training in the making of editorial judgments. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 346
Media Management
Examination of the internal functioning and management practices related to the various media institutions. Discusses management by objectives, work plans, analysis methods, budget-setting, research planning, message strategy and plans, media/channel strategy and plans, and evaluation methods related to communication activities. Emphasis is on developing integrated approaches to solving communication problems under changing environmental conditions. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 352
Advanced Web Publishing
This course sets out to define and apply advanced concepts of HTML and introduce JavaScript and CGI scripting. Students will develop data driven sites incorporating scripting and advanced HTML concepts, combining technical skills with professional design approaches. Instructor's permission may be required for this course. Prerequisite: MCOM 252 Introduction to Web Publishing 3 semester hours

MASS COMMUNICATION 354
Media, Sports, and Society
This course studies the relationship between and among media, sports, and society. It examines media coverage of sports, the mediated sports culture, sports and politics, the spectators' enjoyment of sports violence, the dark side of competition, and gender and ethnicity issues in sports. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 360
Broadcast News Writing
A course on writing news for broadcast media. Emphasis on broadcast style, specificity of language, time constraints, writing to tape and other actualities, and other considerations unique to radio and television news. Instructor's permission may be required for this course. Prerequisite: MCOM 240. 3 semester hours

MASS COMMUNICATION 364
International Journalism
This course examines the practices of news-gathering, news making and news reporting in different countries. It also studies international news agencies, issues of freedom of the press, global information flow, new world information order, media development and barriers to media development, cultural imperialism, the relationship between Western media and world media, foreign news reporting, and media and international relations. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 357
The Portfolio Project
The semester is spent creating professional portfolios students can use to seek employment. This is a highly specialized, hands-on class where actual portfolios are created to help students obtain work in their specific area of interest - advertising, public relations, sports media, new media, broadcast, non-broadcast, production, and many more. Prerequisites: Juniors and Seniors who already have portfolio pieces created from prior classes. Sophomores upon instructor's approval. 3 semester hours

MASS COMMUNICATION 370
Publicity Methods
Elements of publicity writing for mass media. Students may work for not-for-profit organizations in planning and implementing publicity campaigns or other public relations projects. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 372
Advanced Digital Video Creation
The semester is devoted to the creation and execution of one project which could potentially be used as a “reel” sample to find work in the digital video, advertising or public relations industries. Each student will work on a project most suitable to their ultimate career objective. Choices of projects might include: documentary, news stories, video news releases, product demonstration, training videos, and many others. Instructor's permission may be required for this course. Prerequisite: MCOM 272 Creating Digital Video. 3 semester hours

MASS COMMUNICATION 384
Organizational Communication
Communication in formal organizations, such as schools, industry, hospitals, and government, with emphasis on how organizational variables affect communication behavior of humans at work. Simulation, role-playing, case method, and videotape are used as techniques for evaluating personal and organizational effectiveness. 3 semester hours

MASS COMMUNICATION 390
Media Law and Ethics
Legal interpretations and standards of judgment that affect the reporter and the mass media. Theory of the First Amendment. Problems of libel, privacy, censorship, contempt, news source protection. Relationship of media regulations to community standards and social mores. Instructor's permission may be required for this course. 3 semester hours

MASS COMMUNICATION 395
Senior Seminar in Mass Communication
A senior seminar, with emphasis on the analysis of mass media institutions, content,
Mathematics

MATHEMATICS 98
Elementary Algebra
An introductory course in basic algebra with applications. Topics include fundamental operations, fractions, exponents, radicals, factoring, linear equations and systems, linear inequalities and quadratic equations.
0 semester hours

MATHEMATICS 100
Elementary Algebra
An introductory course in basic algebra with applications. Topics include fundamental operations, fractions, real numbers, algebraic equations, linear equations and inequalities, exponents and polynomials, factoring and rational equations. This is a course for those students who are not ready for Math C105, Intermediate Algebra. This course is a three university semester hour course which means it does not meet distribution requirements or count toward the minimum semester hour requirement for graduation. This course is not open to students who have passed the Math Placement Exam (Basic Algebra Exam) or passed MATH C105 or above.
3 semester hours

MATHEMATICS C105
Intermediate Algebra
A survey course in selected topics from college algebra and elementary functions. This course satisfies the Core Curriculum Basic Skills mathematics requirement. Topics include set notion, number systems, rules of algebra, operations with polynomials, factoring, linear equations and inequalities, solving polynomial equations, linear systems, and functions. Prerequisite: “C” or better in MATH 100 or Mathematics Placement Exam.
3 semester hours

MATHEMATICS C105A
Intermediate Algebra
A survey course, covered at a slower pace than Math C105, in selected topics from college algebra and the elementary functions. Prerequisite: “C” or better in MATH 100 or Mathematics Placement Exam.
3 semester hours

MATHEMATICS 108
Ideas of Mathematics
A survey of mathematical ideas and their applications. The course will focus on five core areas: logic, algebraic systems, functions and graphs, analysis, and probability and statistics. Applications will be drawn from the social sciences, natural sciences, arts and technology. The course will introduce the use of graphing calculators and computer applications software as tools to enhance creative thinking. Intended for non-specialists, the course will explore the beauty and power of mathematical reasoning through problem-solving and readings. Prerequisite: Competency in high school level Intermediate Algebra as demonstrated by the University placement exam or completion of MATH C105 with a “C” or better.
4 periods, (3 lecture/1 lab); 3 semester hours

MATHEMATICS 110
Calculus and Analytic Geometry I
4 semester hours

MATHEMATICS 112
Calculus and Analytic Geometry II
4 semester hours

MATHEMATICS 200
Mathematics Cooperative Work Study
Students entering the Mathematics Cooperative Education Program take this course each semester that they are employed full-time in paid work assignments. A written report will be required describing achievements resulting from the work experience. Prerequisite: Completion of at least 30 semester hours and permission of the Department.
1 semester hour with a maximum of 6 semester hours to be applied to the degree
Mathematics

MATHEMATICS 203
Elementary Statistics
A non-calculus introduction to applied statistics for business, life and social science students. Probability. Classification of data, averages, dispersion, frequency distributions, confidence intervals, and test of significance. Elementary linear regression and correlation. The course will make use of statistical software. Prerequisite: “C” or better in MATH C105.
3 semester hours

MATHEMATICS 212
Introduction to Abstract Mathematics and Boolean Algebra
This course is designed to provide the mathematical background and basic concepts needed in upper division mathematics and computer science courses. Topics covered include basic logic, methods of proof, set theory, relations and functions, development of real number system, and an introduction to Boolean algebra. Prerequisite: “C” or better in MATH 109 or equivalent.
3 semester hours

MATHEMATICS 214
Linear Algebra
System of linear equations and matrix algebra, determinants, vector spaces, eigenvectors, linear transforms and inner product spaces. Prerequisite: “C” or better in MATH 110.
3 semester hours

MATHEMATICS 215
Calculus and Analytic Geometry III
Vector algebra and calculus and the geometry of space. Functions of several variables and partial differentiation. Directional derivatives and the gradient vector. Maximum and minimum values and Lagrange multipliers. Multiple integrals. Rectangular, cylindrical and spherical coordinates. Vector fields, del operators and vector integral theorems. Prerequisite: “C” or better in MATH 112.
4 semester hours

MATHEMATICS 227
Discrete Structures
This course is an introduction to some of the discrete mathematical structures relevant to computer science, including set theory, propositional calculus, predicate calculus, algebraic operations and relations, counting techniques and graph theory. Required of Math majors. Identical to Computer Science 227. Prerequisite: “C” or better in MATH 109.
3 semester hours

MATHEMATICS 301
Differential Equations
A course in ordinary differential equations (ODEs). Classification of ODEs. Existence and uniqueness theorems. Solution of first and second order linear ODEs. Nonlinear, exact, homogeneous and higher order ODEs. Power series and Laplace transform solutions. System of ODEs. Applications include topics in the physical, natural and social sciences, engineering, finance and ecology. Prerequisite: “C” or better in MATH 112.
3 semester hours

MATHEMATICS 314
Numerical Methods
A first course dealing with basic numerical methods for finding roots of non-linear equations, interpolation theory, approximation of functions, numerical integration and differentiation, numerical solutions of systems of linear equations, the matrix eigenvalue problem and the numerical solutions of ordinary differential equations. Prerequisite: CPSC 101 and “C” or better in MATH 112.
3 semester hours

MATHEMATICS 319
Introduction to the Theory of Numbers
3 semester hours

MATHEMATICS 323
Probability and Statistics I
Classical theory of probability. Sample spaces, probability and conditional probability, random variables and their distributions. Standard discrete distributions, normal distributions, moment generating functions and central limit theorems. Prerequisite: “C” or better in MATH 112.
3 semester hours

MATHEMATICS 341 (MATH 341/CPSC 341)
Operations Research
Linear programming formulation of optimization problems, hyper planes, convex sets, linear independence, bases of vector spaces, matrix inversion, theory and computation techniques of simplex, revised simplex methods, degeneracy, duality. Transportation and assignment problems, integer programming and network flows. Prerequisite: “C” or better in MATH 214, CPSC 227.
3 semester hours

MATHEMATICS 347
Advanced Calculus I
Limits, continuity, differentiability, integrability. Functions of several variables, partial differentiation, implicit functions, multiple integrals, line integrals, Green’s theorem. Prerequisite: “C” or better in MATH 215.
3 semester hours

MATHEMATICS 348
Advanced Calculus II
Continuation of Mathematics 347. Line and surface integrals, Green’s theorem, limits, indeterminate forms, infinite series, improper integrals, Fourier series. Prerequisite: “C” or better in MATH 347.
3 semester hours

MATHEMATICS 380
Selected Topics in Mathematics
Selected topics such as calculus of variations which are not currently in other Mathematics courses. Topics will vary from semester to semester. May be taken more than once for credit when topics are different.
1-3 semester hours

MATHEMATICS 391
Modern Algebra
Set theory, including the concepts of mapping and denumerable and non-denumerable sets. Study of abstract structures such as groups, rings, fields and algebras. Prerequisite: “C” or better in MATH 214.
3 semester hours

MATHEMATICS 393
Senior Seminar in Mathematics
This course is, in part, designed to acquaint the participants with mathematics reference works, resource materials, periodicals, and expository writings. Each student is required to write several papers and to make periodic oral presentations. Visiting speakers conduct
Mathematics • Mechanical Engineering

some of the seminars. Required of mathematics majors and normally taken in the junior or senior year. Prerequisite: “C” or better in MATH 214 or permission of instructor. 3 semester hours

MATHMATICS 399
Independent Study
Prerequisite: Permission of Division Director.
1-3 semester hours

The following mathematics courses, described in the Graduate Section are also open to selected upperclassmen: 401, 402—Advanced Analysis for Scientists and Engineers I and II.

MATHMATICS 401
Advanced Analysis for Scientists and Engineers I
Partial differential equations, Bessel functions, Legendre polynomials. Fourier series, boundary and initial value problems, topics in vector analysis, tensor analysis. Prerequisite: Math 301 (Differential Equations), or permission of the instructor. 3 semester hours

MATHMATICS 402
Advanced Analysis for Scientists and Engineers II
Functions of a complex variable conformal mapping, calculus of residues, operators. Prerequisites: Math 301 (Differential Equations), or permission of the instructor. 3 semester hours

Mechanical Engineering

MECHANICAL ENGINEERING 208
Introduction to Thermal Engineering
This course will introduce undergraduate engineering majors to three important interrelated areas of Mechanical Engineering (thermodynamics, fluid mechanics and heat transfer). The increased emphasis placed on energy in our society makes it necessary for all engineers to have a basic understanding of thermal engineering. Prerequisites: Permission of the instructor. 3 semester hours

MECHANICAL ENGINEERING 223
Materials Science for Engineers
A study of the properties of materials of importance to engineers. Structure-PROPERTY-processingshipships. Mechanical, physical and electrical properties of metals, ceramics and polymers. Prerequisite: CHEM 103. 3 semester hours

MECHANICAL ENGINEERING 309
Fluid Mechanics II
Continuation of first course in fluid mechanics. Introduces the student to more advanced topics including laminar and turbulent boundary layer theory, lift and drag, subsonic and supersonic compressible flow, introduction to turbo-machinery and introduction to computational fluid mechanics. Prerequisites: Permission of the instructor. 3 lecture hours; 3 semester hours; 1 design semester hour

MECHANICAL ENGINEERING 310
Thermodynamics II
Applications of thermodynamic principles to engineering problems. Analysis of power and refrigeration cycles. Availability and irreversibility. Mathematical relations between properties. Non-reacting mixtures. Psychrometrics. Combustion principles. Prerequisite: Permission of the instructor. 3 lecture hours; 3 semester hours; 1 design semester hour

MECHANICAL ENGINEERING 315
Mechanical Vibrations
Free and forced vibrations. Damped and undamped, single and multiple-degree-of-freedom systems. Vibration measuring instruments. Normal mode analysis including matrix methods. Lagrange’s equations. Approximate and computer methods of analysis. Prerequisite: Permission of the instructor. 3 lecture hours; 3 semester hours; 1 design semester hour

MECHANICAL ENGINEERING 407
Modern Materials and Advanced Manufacturing Technologies
This course focuses on the study of modern industrial materials and the process of developing creative solutions through conceptual analysis and synthesis on different advanced and automated manufacturing processes. The course will help students to learn the emerging topics in the material and manufacturing industries. The topics covered in the course are: the study on today’s popular industrial materials, material selections and industrial applications, and their related manufacturing techniques in US industry. Topics also include the introduction of quality control (QC) process that is important to the production with the high quality. The course has two class projects which will guide and help students to learn the ways of preparing for professional research and keep track of the latest technologies in modern materials, advanced and automated manufacturing processes. Pre-requisites: ENGR 111, MEEG 223. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 410
Advanced Fluid Dynamics
Advanced topics in applied fluid mechanics. Review of continuity, momentum, and energy equations for viscous, incompressible fluid; voracity and circulation concepts and theorems. Selected topics from the following areas: Complex potential, conformal mapping and applications. Airfoil and wing theory. Boundary layer theory; similarity solutions for laminar flows, integral techniques for turbulent flows. Compression and expansion waves in compressible flows; oblique shock waves, Prandtl-Meyer flow. Propagating waves and applications; shock tube, transients in duct systems. Pre-requisite: Undergraduate Fluid Mechanics, MEEG 309. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 421
Computer Aided Engineering Design
This course applies 3-D CAD system e.g., Pro E to industrial product and system design. These CAD systems are very practical and powerful 3-D CAD tools and they have been widely used in the industry. The first half of the class focuses on learning fundamentals of the 3-D system, its popular applications and its related techniques. The special topics of design concept are also included. The second half covers several practical projects. Students will combine the design techniques with the real project and use 3-D tools to design the product or part of industrial system. All projects will be presented by students in class. Pre-requisites: ENGR 111, PHYS 111. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 422
Advanced Computer Aided Project Design
This advanced course focuses on some hot and very practical topics in today’s industrial design applications. Also, some useful knowledge, such as PLC (Program Logic Control), calculation and selection of industrial motors,
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fundamentals of automation, sensor technology, and selection of material on different industrial applications are included. Several more complicated projects in this class will help students learn how to manage the different engineering projects and understand all related design issues which will improve the future production and manufacturing process. Pro-E will be used as a 3-D CAD tool to design these advanced engineering projects. All projects should be presented by students in the class. Pre-requisites: MEEG 421. 
3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 423
Computer Aided Manufacturing (CAM) and NC Machining
This course applies manufacturing and various numerical controlled software for designing computer-aided manufacturing and NC machining systems, processes and algorithms. This course is heavy in implementation of various manufacturing technologies and programming of NC machines. Pre-requisites: ENGR 111, PHYS 111, MEG 421. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 430
Design & Innovation
The objective of this course is to convey a sense of Design and Innovation in the development of products. To accomplish this the class shall review a number of case studies and participate in the design of a project. In addition to the semester project we shall discuss a number of topics of concern to Design and Engineering through illustrated talks (slides/tapes) and when available with guest designers and engineers. Pre-requisites: ENGR 111, ENGR 300. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 440
Ergonomic Factors in Design
This course introduces the student to the concepts of ergonomics. Ergonomics is the study of fitting the workplace and devises to the capabilities of the human worker. Students will have an understanding of the beginnings and evolution of the field of ergonomics. They will learn to recognize risk factors associated with repetitive stress disorders (e.g., carpal tunnel syndrome) and potential sprain/strain injuries as well as be familiar with the body areas affected. This course covers principles of physiology and biomechanics and how they apply to workstation and tool design. Pre-requisites: ENGR 111. 
3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 452
Advanced Vibrations
Brief review of systems with one and two degrees of freedom. Rayleigh's method. Application of Lagrangian and matrix methods to discrete systems with many degrees of freedom; normal mode theory; vibrations of finite continua; solution methods and mathematical properties. Numerical and computer methods. Sensitivity analysis. Applications to machines and structures. Pre-requisites: MEEG 315 or equivalent. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 453
Finite Element Methods in Mechanical Engineering
Formulation of finite element characteristics using energy methods. Convergence criteria. Consistent load and mass matrices. In-plane and axisymmetric analysis using simple and higher-order triangular and quadrilateral elements. Finite element analysis of plate-bending problems. Isoparametric concepts and formulation; applications to two-and three-dimensional stress analysis. Topics from the following areas will be chosen as time allows: buckling and vibration studies using discrete element techniques; finite element applications in fluid flow and heat transfer. Pre-requisites: ENGR 111, PHYS 111, MEG 421. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 454
Advanced Dynamics
Orthogonal coordinate systems and their transformations. Particle kinematics in inertial and noninertial rotating coordinate systems. Dynamics of systems of particles and rigid bodies. Virtual work and generalized coordinates. Lagrange's equations and Hamilton's principle for holonomic and non-holonomic systems with applications. Lagrange multipliers. Pre-requisites: Under-graduate Dynamics, MATH 301. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 456
Mechanics of Composite Materials
Introduction to the mechanics of laminated filamentary composites. Prediction of stiffness and strength of laminated plates. Applications. Prerequisites: Undergraduate Strength of Materials, MEEG 223. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 458
Fatigue and Fracture Mechanics
Brittle fracture of structures, elastic stress analysis of cracked components, static and dynamic failures, plane stress and plane strain, elastic-plastic fracture mechanics, fatigue crack growth and life prediction under constant and variable amplitude loading, environmental effects. Term work is mainly design problems and is computer oriented. Pre-requisites: Undergraduate Strength of Materials, MEEG 223. 3 lecture hours; 3 semester hours; 1 design semester hour

MECHANICAL ENGINEERING 463
Advanced Heat Transfer
Topics in conduction, convection and radiation heat transfer. Numerical methods, phase change, boundary layer principles, gas and solar radiation, combined heat and mass transfer. Prerequisite: MATH 301, PHYS 209, MEEG 208. 3 lecture hours; 3 semester hours

MECHANICAL ENGINEERING 490
Intellectual Property and Technology
This course is designed for graduate students who have an undergraduate degree in Engineering, Computer Science, Mathematics, Physics, Biology, Industrial Design, etc. Students need not have any familiarity with United States law but they must be prepared to read extensively under the instructor’s guidance, statutes and cases decided by the Federal and State courts. Pre-requisites: Undergraduate degree in Engineering or Sciences. 3 lecture hours; 3 semester hours

Medical Laboratory Science (MLSC)

MEDICAL LABORATORY SCIENCE 301
Phlebotomy
Introduction to the theory and practice of phlebotomy and laboratory safety. Pre-analytical, analytical and post analytical components of laboratory service. Introduction to the principle and practice of quality assurance and quality improvement. 2 Semester hours

MEDICAL LABORATORY SCIENCE 310
Intro to Hematology
Lecture/laboratory course that emphasizes basic hematologic principles. Manual and au-
Medical Laboratory Science

tomated procedures are performed. Emphasis on morphology and clinical applications. The course includes hemostasis and components in the blood related to hemostatic mechanisms. Includes principles of procedures involved and their relationship to diagnosis and treatment of disease. Prerequisite: BIOL 102 with a C or better. Recommend MLSC 315 or Bio 114 as a pre-requisite for Biology majors. 2 semester hours

MEDICAL LABORATORY SCIENCE 311 Intro to Clinical Chemistry
Lecture/laboratory course focusing on clinical significance and methodology of carbohydrates, proteins, lipids, and lipoproteins, blood gases, acid-base balance, liver function, kidney function, and endocrinology. Emphasis on quality control as it applies to selected clinical chemistry procedures. Review of lab math and statistics. Prerequisite: CHEM 380 with a C or better. 3 semester hours

MEDICAL LABORATORY SCIENCE 314 Intro to Immunohematology
Lecture/laboratory course emphasizing immunohematologic concepts and properties underlying scientific principles of blood banking. Includes theory and practical applications of blood-group systems, antibody identification and compatibility testing, hemolytic disease of the newborn, autoimmune hemolytic anemia, and donor testing introduction to procurement and processing. Prerequisite: BIOL 102 with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 315 Fundamentals of Medical Laboratory Science
Lecture and laboratory introduction to Medical Lab sciences. Topics to include: Safety, Professionalism, Introduction to all areas of the modern clinical laboratory (Chemistry, Hematology, Microbiology, Immunology, and Toxicology), Blood banking with a special emphasis on Clinical Microscopy and urinalysis. Pre-requisite: Bio102, Chem 103 with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 317 Mycology/Parasitology/Virology
Overview of medically significant fungi, parasites, and viruses. Emphasis will be placed on pathogenesis, modes of transmission, and identification. Laboratory techniques used in isolation, cultivation, and identification will be used. Also included will be discussions of epidemiology and host response regarding these microorganisms. Prerequisite: BIOL 101 or BIOL 332, both with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 320 Pre-clinical Seminar
An introduction to the profession of clinical laboratory science, review of ethics and professionalism, confidentiality, health care issues, application of safety and government regulations and standards, customer service, interpersonal and interdisciplinary communication and team building skills, UBMLSC policy manual student handbook review, preparation for clinical interviews, resume writing, laboratory organization, roles, and credentialing of laboratory practitioners are discussed. Standards, ethics, and current professional issues are examined. Communication skill development and review of scientific literature are included. Review for the successful completion of the clinical readiness examination. 1 semester hour

MEDICAL LABORATORY SCIENCE 321 Clinical Seminar I
Educational methodology, including objective and examination, writing and item analysis curriculum design and evaluation of Cognitive, affective and psychomotor domains. Accreditation, Certification and licensure related issues. Dynamics of the health care delivery system as it relates to the clinical laboratory and services. 1 semester hour

MEDICAL LABORATORY SCIENCE 322 Clinical Seminar II
Introduction to human resource and financial management, Lab operations including critical pathways and clinical decision making, performance improvement, lab information systems LIS, personnel management and financial management of a clinical laboratory. Advanced principles and practices of quality assurance and quality improvement, Career advancement and planning, Professionalism, CMP. 1 semester hour

MEDICAL LABORATORY SCIENCE 332 Medical Microbiology
This course is taught in conjunction with the Bio332 Medical microbiology course, the laboratory section is open to MLS majors and focuses on techniques used for the identification of microorganisms in a clinical laboratory. Pre-requisite Bio 320 with a C or better. 4 semester hours

MEDICAL LABORATORY SCIENCE 380 Phlebotomy Internship
Performance and observation of various phlebotomy techniques in potentially both inpatient and outpatient settings. 2 semester hours

MEDICAL LABORATORY SCIENCE 410 Advanced Hematology
Lecture/laboratory focusing on advanced principles of hematologic testing leading to improved interpretative skills in hematology. Emphasis on correlation of data with disease states and disorders. Case studies and discussion used to illustrate the pathophysiology of hematological dysfunction. Prerequisite: MLSC 311 with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 411 Advanced Immunohematology
Lecture/laboratory focusing on clinical significance and methodology of trace elements, vitamins, therapeutic drug monitoring, and toxicology. Newer testing methods used to identify diseases/disturbances will be discussed. Emphasizes instrument selection and method validation process. Prerequisite: MLSC 311 with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 414 Advanced Immunohematology
Lecture/laboratory focusing on problem-solving and special techniques used in antibody identification and compatibility testing. Also includes a discussion of donor requirements, blood component preparation and therapy, and quality assurance in the blood bank/ transfusion service. Prerequisite: MLSC 314 with a C or better. 2 semester hours

MEDICAL LABORATORY SCIENCE 420 Clinical Hematology Laboratory Rotation (Clinical site)
Automated and manual methods of cell counting and differentiation are performed on blood and other body fluids. Instruction and experience in advanced instrumentation using automated cell counters and differential systems, coagulation and platelet analyzers, and special hematologic testing of white and red cells us-
ing cytochemistry techniques are provided to identify disease states and disorders. Prerequisite: MLSC Successful completion of MLSC 310 with C or better, and successful completion of the clinical readiness examination.

4 semester hours

MEDICAL LABORATORY SCIENCE 421
Clinical Chemistry Laboratory Rotation (Clinical)
Provides an opportunity to apply chemical and immunologic theory and practice to routine and special clinical chemistry procedures, toxicology, therapeutic drug monitoring, and urinalysis. Also includes immunologic procedures. Includes instruction and experience in the use, standardization, and maintenance of sophisticated laboratory analyzers. Prerequisite: MLSC 311 with a C or better and successful completion of the clinical readiness examination.

5 semester hours

MEDICAL LABORATORY SCIENCE 422
Clinical Microbiology Laboratory Rotation (Clinical)
Isolation and identification of clinically important bacteria, mycobacteria, and fungi including antibiotic susceptibility testing. Techniques for identifying parasites are included. Prerequisite: MLSC 332 with a C or better and successful completion of the clinical readiness examination.

4 semester hours

MEDICAL LABORATORY SCIENCE 424
Clinical Immunohematology Laboratory Rotation (Clinical)
Blood typing, antibody screening and identification, compatibility testing, and other immunohematologic procedures are included. Emphasis is on operation and problem-solving in a modern transfusion service. Prerequisite: MLSC 314 with a C or better and successful completion of the clinical readiness examination.

3 semester hours

MEDICAL LABORATORY SCIENCE 431
Clinical Correlation (Clinical)
Use of problem-based case studies to analyze clinical situations and correlate laboratory data. Prerequisite: Successful completion of the clinical readiness examination.

2 semester hours

MEDICAL LABORATORY SCIENCE 432
Clinical Research
A review of qualitative and quantitative research methods and statistics resulting in the completion of a clinical based technical or educational based research project.

1 semester hour

MEDICAL LABORATORY SCIENCE 441
Immunology
This course is taught in conjunction with the Bio 441 immunology course, the laboratory section is devoted to immunologic and serologic techniques utilized in a clinical laboratory. Pre-requisite Bio 211 with a C or better. 4 Semester hours

Music

MUSIC 100
Private Lessons
Private instrumental/vocal lessons are available at a special fee. One credit per semester will be given for 30 minute weekly lessons. Two credits per semester will be given for 60 minute weekly lessons. Applied music may be repeated for credit each semester. Prerequisite: Permission of instructor.

1-2 semester hours

MUSIC 109A
Aural Theory I
Development of aural recognition and singing. Includes intervals, scales, and triads in all forms.

1 semester hour

MUSIC 110
Theory II
Counterpoint. Beginning with first species tonal counterpoint and progressing to four-part chorale textures, students will develop the skills of writing multiple musical lines according to standard practices. Musical examples are studied.

3 semester hours

MUSIC 110A
Aural Theory II
Continues the development of aural recognition and singing, with emphasis on two-part music.

1 semester hour

MUSIC 121
Music Appreciation
A basic course in the elements of music and their historical application in Western music. Active listening and student participation is emphasized.

3 semester hours

MUSIC 201/202
Master Works of Music I, II
Designed to increase knowledge of musical literature and to refine awareness of musical patterns and syntax. Representative works in contrasting instrumentation are analyzed and compared.

2 semester hours each

MUSIC 203
History of Western Music I
The historical development of music and musical styles from ancient Greece to the end of the baroque era.

3 semesters hours

MUSIC 204
History of Western Music II
The historical development of music and musical styles from the baroque era through succeeding classical, romantic and modern periods.

3 semester hours

MUSIC 205
Twentieth Century Music
An examination of the diverse styles of the 20th century, the composers, and social, cul-
Music

tural, and philosophical trends which influence them. Prerequisite: Music 121 or Music 203/204, or permission of the instructor.
3 semester hours

MUSIC 207
The History of Jazz
A study of the periods of jazz, jazz performers and composers, trends, influences, stylistic features, and related materials.
3 semester hours

MUSIC 208A / 208B
Jazz Improvisation and Repertoire I, II
A beginning approach to jazz improvisation through the study of contemporary harmony. Lyrical style will be emphasized. Students analyze and transcribe solos. Prerequisites: Music 109-110.
3 semester hours

MUSIC 212
Studio Recording
Introduction to the use of microphones, mixing consoles, digital and analog recorders in the university’s recording studio. Labs include on-campus concerts.
2 semester hours

MUSIC 215
Theory III
Harmony and Analysis. Introduction to the harmonic and formal practices of the seventeenth and eighteenth centuries in Western music. Examples from the repertoire studied. Continues the study of four-part writing.
3 semester hours

MUSIC 215A / 216A
Aural Theory III, IV
Continues the development of aural recognition and solfege singing. Includes aural recognition of four-part music, cadences, and modulations.
1 semester hour each

MUSIC 216
Theory IV
Harmony and Analysis. Introduction to the harmonic practices of the nineteenth and early twentieth centuries in Western music, with an emphasis on chromaticism and large scale formal considerations. Examples from the repertoire will be examined.
3 semester hours

MUSIC 220
Vocal Diction
Study of IPA and vowel and consonant production required for singing in Italian, German, French and English. Specific application to the song and operatic literature.
3 semester hours

MUSIC 255
Group Piano
A beginning course in the fundamentals of piano technique and playing. Simple pieces, scales, exercises and transposition.
2 semester hours

MUSIC 256
Keyboard Harmony
Keyboard skills are developed which include playing harmonic progressions in any key, cadences, and diatonic and chromatic sequences. Sight-reading diatonic melodies and simple figured bass are also required.
2 semester hours

MUSIC 295
Junior Recital
A full-length recital performed on declared major instrument. Format and repertoire must be approved by music faculty. Pass/Fail.
0 credit

MUSIC 298
Piano Maintenance and Repair
Aspects of piano tuning, regulation, maintenance and basic repairs are studied using project instruments supplied by the university.
3 semester hours

MUSIC 304A, 304B
Jazz Arranging I, II
Beginning and intermediate study and application of modern techniques of writing for large and small jazz ensembles. Prerequisite: Music 215 or permission of instructor.
3 semester hours each

MUSIC 311
Conducting I
Fundamental patterns and expressive techniques of conducting. Emphasis in choral techniques and conducting choral ensembles.
3 semester hours

MUSIC 312
Conducting II
Advanced patterns and expressive techniques of conducting. Emphasis in instrumental techniques and conducting instrumental ensembles and orchestras.
3 semester hours

MUSIC 115
Introduction to Composition
Specific creative projects to be performed by University ensembles or soloists. Techniques of instrumentation and notation are emphasized. Prerequisite: Music 216 or permission of instructor.
3 semester hours

MUSIC 195
Senior Recital
A full-length recital performed on declared major instrument. Format and repertoire must be approved by music faculty. Pass/Fail.
0 credit

MUSIC 398
Internship
Professional, supervised, work experience in an organization related to career goals (may be unpaid). Prerequisite: Permission of advisor and School director.
3 semester hours

MUSIC 399
Independent Study
Specialized advanced projects in subjects not covered by course offerings. Conferences with designated Independent Study advisor. Prerequisite: Permission of advisor and school director.
3 semester hours

MUSIC 414
Business of Music
Practical knowledge of skills necessary to function and flourish as a professional musician. Standard business models for private studio teaching, not-for-profits, performing contracts, artist management, recording and publishing.
3 semester hours

MUSIC 426
Computers in Music
An introduction to computer functions essential for musicians including music engraving, MIDI sequencing, and desktop publishing.
3 semester hours

MUSIC 427
MIDI Performance
Using MIDI (Musical Instrument Digital Interface) as a recording studio tool, students learn to configure personal computers and MIDI controllable devices (synthesizers, lighting systems, sound modules, and/or effects). Emphasis placed on the creative end result.
Music • Music Education

Prerequisite: Music 212 and Music 426.

3 semester hours

Ensembles

MUSIC 103
Chorus
Presentation of choral works from a variety of cultural and historical perspectives. Performances at university and community functions. All who enjoy singing are encouraged to enroll.

1 semester hour

MUSIC 105
Orchestra
A university-community orchestra offering opportunity for public performance.

1 semester hour

MUSIC 107
Chamber Ensembles
Development of musical skills related to functioning within an ensemble. An exploration of rehearsal techniques and group dynamics leading to performance of repertoire for chamber ensembles. Prerequisite: Permission of instructor.

1 semester hour

Brass Ensemble - 107A
String Ensemble - 107B
World Music Ensemble - 107E
Chamber Singers - 107F
Early Music Ensemble - 107M
Accompanying - 107P
Small Group Jazz Ensemble - 107R
(Each 1 semester hour)

MUSIC 112
Sinfonietta
A large instrumental ensemble designed to produce compelling programs that showcase the variety of musical talents and skills of students.

1 semester hour

MUSIC 115
Concert Choir
Limited to a balanced choral ensemble selected by audition during registration. Extensive performance opportunities with emphasis on traditional and contemporary choral literature. Membership on full-year basis only.

1 semester hour

Music Education

MUSIC EDUCATION 183
Group Instruction in Voice
Instructing the future teacher in techniques of tone production, pitch, and modern effects used in choral singing, especially at the junior and senior high school levels.

2 semester hours

MUSIC EDUCATION 221
Group Instruction in Strings
Designed to provide the future school music teacher with proficiency in tone production, pitch, and modern effects used in choral singing, especially at the junior and senior high school levels.

3 semester hours

MUSIC EDUCATION 222
Group Instruction in Strings II
Designed to develop intermediate performance-level skills and to equip students with enough solo and ensemble techniques to develop and teach innovative string programs.

3 semester hours

MUSIC EDUCATION 225
Group Instruction in Brass
Designed to provide the future school music teacher with the necessary proficiency in brass instrument teaching.

3 semester hours

MUSIC EDUCATION 226
Group Instruction in Percussion
Designed to develop intermediate performance-level skills and to equip students with enough solo and ensemble techniques to develop and teach innovative string programs.

3 semester hours

MUSIC EDUCATION 227
Group Instruction in Recorder I
The recorder is one of the most important tools in music education today. This class will present the history, physics, and repertoire of the recorder. It will provide students with pedagogical tools and techniques for teaching all levels of music education.

3 semester hours

MUSIC EDUCATION 228
Group Instruction in Recorder II
This class will focus on repertoire and performance of repertoire most pedagogically useful when teaching recorder classes. This class, in conjunction with Group recorder I M227, and participation in early music ensembles will equip students with enough solo and ensemble techniques to develop and teach innovative recorder programs. Prerequisite: ME227

3 semester hours

MUSIC EDUCATION 240
Pre-Teaching Practicum
Consists of developing teaching styles, plans, and materials designed to: (1) help the student determine professional goals. (2) provide insights and experiences in music teaching prior to professional music education classes.

0 semester hours

MUSIC EDUCATION 241
Choral Practicum
Designed to give the education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard choral literature. Opportunity will be provided to rehearse and conduct University choral ensembles.

0 semester hours

MUSIC EDUCATION 242
Instrumental Practicum
Designed to give the education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard instrumental chamber literature. Opportunity will be provided to rehearse and conduct University chamber ensembles.

0 semester hours

MUSIC EDUCATION 331
Literature and Techniques for Chorus
A study of choral literature appropriate for the middle and high school levels. Includes techniques of voice testing, tone development, range, diction, and musicianship. Prerequisite: Mse 183 or permission of instructor.

3 semester hours

MUSIC EDUCATION 332
Literature and Techniques for Band and Orchestra
Study of band and orchestra literature with emphasis on rehearsal techniques and problems related to band and orchestra organization. Prerequisite: Mse 221, 223, and 225

3 semester hours

MUSIC EDUCATION 336
Literature and Techniques for Jazz Ensemble
Methods, materials, and rehearsal techniques in arranging for small and large jazz ensembles at the high school level. Prerequisite Music 304 or permission of instructor.

3 semester hours
MUSIC EDUCATION 343
Music in Elementary Schools
An examination of significant teaching methods, procedures, materials, and problem-solving necessary to teach music in grades one through six.
3 semester hours

MUSIC EDUCATION 380
Music in Secondary Schools
An examination of significant teaching methods, procedures, materials, and problem-solving necessary to teach music in secondary schools.
3 semester hours

MUSIC EDUCATION 399A
Independent Study
Specialized advanced projects in subjects not covered by regular course offerings. Conferences with designated advisor. Prerequisite: permission of advisor and school director.
3 semester hours

Nutrition

NUTRITION 107
Basic Nutrition
This is an introductory course in personal nutrition. The major and minor nutrients are studied within the context of deficiency requirements, function, characteristics and sources. Food and its components are discussed in relationship to growth, development, metabolism and energy.
2 semester hours

NUTRITION 121
Anatomy and Physiology I, II
A detailed study of the structure and function of cells, tissues, and organ systems. Control systems of the human body, homeostatic mechanisms, and the interrelations between the systems are studied.
8 full day weekend sessions; 6 semester hours

NUTRITION 123
Nutrition Seminar
A seminar designed to provide students with the basic principles of nutrition. Topics include classes and sources of nutrients, energy intake and expenditure, dietary standards and guidelines, food labeling and food safety. Emphasis will be placed on the role of macronutrients in the diet.
2 full day weekend sessions; 1 semester hour

NUTRITION 204
Principles of Nutrition
The principles of nutrition are presented with emphasis upon diet counseling and behavioral modification for the dental patient. The case method is used both in theory and practice to relate prevention and control of oral disease through nutritional status. Prerequisite: CHEM 114.
2 semester hours

NUTRITION 205
Fundamentals of Nutrition
The fundamentals of normal and therapeutic nutrition are presented. Attention is focused on the promotion of health, prevention of illness and the restoration of health following illness for injury. This course includes a self analysis of the participant’s diet.
3 semester hours

NUTRITION 299
Independent Study
Students examine specific nutritional topics of personal interest. Permission of instructor is required.
3-6 semester hours

Philosophy

PHILOSOPHY 101
General Philosophy
A survey of the central problems of metaphysics, epistemology, and ethics. Topics include the existence of God, extreme skepticism, the relationship between mind and body, free will versus determinism, and freedom of expression. The course includes analysis of representative thinkers.
3 semester hours

PHILOSOPHY 103
Men, Women, Issues
A discussion of gender differences and sex equality. The course critically examines topics such as sexual harassment, comparable worth, monogamous marriage, prostitution, and rape. These topics are examined from a variety of perspectives, including conservatism, liberal feminism, traditional Marxism, radical feminism, and the care and justice outlooks that Carol Gilligan has identified.
3 semester hours

PHILOSOPHY 104
Logic and Scientific Method
Study of logical inference, both deductive and inductive. Analysis of propositions, arguments, fallacies, language, and the nature and functions of the methods of the sciences.
3 semester hours

PHILOSOPHY 203
Ethics
A study of problems of applied ethics, such as abortion, animal experimentation, affirmative action, and gay and lesbian rights. These problems are explored from the standpoint of ethical theories such as utilitarianism and Kantian ethics. The course helps students formulate and interpret moral values by which they may think and act.
3 semester hours

PHILOSOPHY 205
History of Western Philosophy
A survey of the historical development of philosophy from antiquity through the 19th Century, with weight given to the contributions of Greek philosophers and those of the Middle Ages and the Enlightenment. In the 19th Century, attention is given to the rationalist, idealist, and empiricist schools of thought and their influence.
3 semester hours

PHILOSOPHY 210
Animal Rights
This course explores philosophical theories of animal rights as well as the practical applications of these theories. Topics include vegetarianism, animal experiments, hunting and fishing, the treatment of animals in zoos and circuses, the treatment of companion animals, the treatment of animals in the fur and leather industry, and the use of violence by some animal rights activists.
3 semester hours

PHILOSOPHY 216
Philosophy of World Religions
A comparison and analysis of the philosophical foundations of some of the world’s major
Philosophy • Physics

religions. Among the religions studied are: Judaism, Christianity, Islam, Hinduism, Buddhism, and Confucianism.

3 semester hours

PHILOSOPHY 323 (PHIL 323/PSCI 323)

Classics in Political Theory
Analysis of principles of political theories of the Ancient Greek, Roman, Medieval, and Early Modern periods. Emphasis on the thought of Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Machiavelli, Hobbes, Locke and Montesquieu. Application of these theories to contemporary political ideas and problems.

3 semester hours

PHILOSOPHY 324 (PHIL 324/PSCI 324)

Recent Political Theory
An examination of a broad spectrum of recent world views, with particular attention paid to systems such as anarchism, Marxism-Leninism, and fascism. Other topics include Third World perspectives, black power, radical feminism, and futurism.

3 semester hours

PHILOSOPHY 340

Selected Topics in Philosophy
Concentrated study of a major figure or theme that will supplement the offerings in the department.

3 semester hours

PHILOSOPHY 390

Independent Study
For the student who wishes to specialize in advanced topics not covered by regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of School Director.

3 semester hours

Physics

PHYSICS 103

Basic Concepts of Physics I
Space and matter, particles in motion, Newtonian mechanics, atoms and heat, wave phenomena.

2 lectures; 1 two-hour lab; 3 semester hours

PHYSICS 104

Basic Concepts of Physics II
Electricity and magnetism, relativity, and optics. The fundamental structure of matter.

2 lectures; 1 two-hour lab; 3 semester hours

PHYSICS 111

Principles of Physics I
The principles of mechanics and their applications. Kinematics, Newtonian mechanics, conditions for equilibrium, static’s, work, energy and conservation laws. Rotation. Simple harmonic motion; Co-requisite: MATH 110, or MATH 111.

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 112

Principles of Physics II

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 201

General Physics I
A non-calculus course which presents an introduction to classical mechanics, heat and thermodynamics. Prerequisite: MATH C105 or its equivalent.

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 202

General Physics II
A non-calculus course covering the fundamental laws of electricity and magnetism, electric circuits, and optics, including topics from modern physics. Prerequisites: Mathematics C105 or its equivalent, PHYS 201 or its equivalent.

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 209

Principles of Physics III
Heat and heat transfer. The laws of thermodynamics, the kinetic theory of gases, and statistical mechanics. The laws of reflection and refraction of light. Lenses and mirrors. Interference, diffraction and polarization of light. The photon description of light. The wave description of electrons. The laboratory serves as an extension of the course lectures by introducing such topics as the photoelectric effect, atomic spectroscopy, and electron diffraction. Prerequisite: PHYS 108; Co-requisite: MATH 215.

3 lecture periods; 1 three-hour lab; 4 semester hours

PHYSICS 304

Thermodynamics and Statistical Mechanics
The zeroth, first, second, and third laws of thermodynamics with applications to physical phenomena. An introduction to statistical physics.

3 semester hours

PHYSICS 305

Electricity and Magnetism I

3 lectures; 3 semester hours

PHYSICS 306

Electricity and Magnetism II

3 lectures; 3 semester hours

PHYSICS 310

Atomic and Nuclear Physics
The Schrodinger equation with applications to the barrier problems, spin, many electron atoms and molecules; special relativity; nuclear structure and the two nucleon problem. Prerequisite: MATH 215.

3 lectures; 3 semester hours

PHYSICS 312

Photonic
The wave aspects of radiation and the kinematics of wave motion giving rise to interference and diffraction, together with the interaction of electromagnetic waves and matter leading to such phenomena as reflection, dispersion, and polarization. Prerequisite: PHYS 209; Co-requisite: MATH 215.

3 lecture periods; 3 semester hours

PHYSICS 315

Quantum Mechanics I
Formalism of quantum mechanics; angular momentum, perturbation theory, other approximation methods, and applications of quantum theory. Prerequisites: MATH 215 and PHYS 209.

3 lecture periods; 3 semester hours

PHYSICS 317

Analytical Mechanics I
Elements of Newtonian mechanics. Motion of a particle, particles, and rigid bodies in one, two, and three dimensions. Prerequisite: PHYS 209; Co-requisite: MATH 215.

3 lectures; 3 semester hours

PHYSICS 318

Analytical Mechanics II
Lagrangian and Hamiltonian Mechanics, perturbation theory, central force fields, applica-
tions of vector and tensor analysis to nonlinear physical problems. Prerequisite: PHYS 317. 
3 lectures; 3 semester hours

PHYSICS 321
Techniques in Modern Physics
Experimentation and Instrumentation. Undergraduate laboratory experiments in physics. Prerequisite: At least two physics courses numbered above 300. 
1 three-hour lab; 1 semester hour

PHYSICS 322, 323, 324
Physics Laboratory
Undergraduate laboratory experiments in physics. Prerequisite: At least two physics courses numbered above 300 and 321. 
1 three-hour lab; 3 semester hours

PHYSICS 360
Selected Topics in Physics
Selected topics in physics on specialized subjects beyond the scope of required courses to inform students of current areas of interest or to train students in special areas of physics. 
3 semester hours

PHYSICS 390, 391
Physics Seminar
Discussion of advanced and current topics in the field of physics. Students will make literature searches and present papers to the seminar in their areas of interest. 
2 semester hours

Political Science

POLITICAL SCIENCE 101
American Government.
The Constitution. Structure and function of the national government: proper citizenship, civil rights, elections, and party organizations. 
3 semester hours

POLITICAL SCIENCE 103
Intro to Political Science and Political Science Research Methods
This course serves as a gateway to the study of political science for IPED majors and political science/international relations minors. We’ll survey the historical and philosophical foundations of the political science discipline, major subject fields under the general category of political science, key concepts and issues in political science, and basic scientific methods in political science study and research. 
3 semester credits

POLITICAL SCIENCE 203
U.S. Foreign Policy
This course examines contemporary US foreign policy from theoretical and policy perspectives. How American foreign policy is formulated and conducted will be discussed during the first half of the semester. The second half will be devoted to evaluations of US policies, especially economic and trade policies, towards key regions of the world. 
3 semester credits

POLITICAL SCIENCE 204
Government and Politics Abroad
Principal institutions, methods, and problems of government of selected foreign countries in Europe, Asia, Africa, and Latin America as compared with the American System. 
3 semester hours

POLITICAL SCIENCE 206
The Political Economy of North-South Relations
Political-economic disparities between “North” (the developed nations) and “South” (developing countries). The causes of these disparities analyzed from an interdisciplinary point of view. Recurring patterns of obstacles to development in some new nations. The role of international financial and other organizations. 
3 semester hours

POLITICAL SCIENCE 207
World Politics
This course explores the principal elements of world politics, examining the context in which the major actors play their roles, as well as the salient features of the international community. It will review the most significant aspects of global politics by examining such topics as foreign policy, the nature of national power, and war. It will examine the origin, organization, and function of the major international institutions, and conclude with a discussion of global issues. 
3 semester hours

POLITICAL SCIENCE 208
Introduction to International Law
History and nature of international law, territorial sovereignty, natural resources and international norms (e.g., exclusive economic zones, the continental shelf, outer space, etc.), diplomatic & consular relations, International Court of Justice and other tribunals, and the use of force in international law. 
3 semester hours

POLITICAL SCIENCE 209
Introduction to United Nations Studies
Examination of the successes and failures of the United Nations, its prospects for the future, principal organs, especially the Security Council, budgetary system, role in arms control, relations between the United Nations and the United States, and related issues. 
3 semester hours

POLITICAL SCIENCE 215
International Human Rights
A study of the international protection of human rights. The course analyzes the origin and nature of human rights, the content of human rights standards guaranteed by international law, as well as the global international mechanism for the protection of human rights. It includes a comparative examination of the regional systems in Europe, the Americas, Asia, and Africa for the protection of human rights. 
3 semester hours

POLITICAL SCIENCE 233
An Introduction to the U.S. Legal System
This course will offer a comprehensive overview of the U.S. legal system, including an overview of legal practice sources and techniques with emphasis on the major substantive areas of the law. Students will begin by examining issues in constitutional law, with an overview of how government functions and how laws are made. A legal writing segment of the course will allow students to use legal analysis while refining their writing skills. 
3 semester credits

POLITICAL SCIENCE 299
Selected Topics in Political Science
A course with variable topic focus, dependent upon student needs and the expertise of the instructor. 
3 semester hours

POLITICAL SCIENCE 303 (PSCI 303/IPED 340)
Political Economy of Latin America
This course will explore pre-Colombian, as well as colonial and post-colonial political and economic development in Latin America. It will pay particular attention to socio-political developments of the Cold War period as well as recent significant initiatives such as the Santiago Commitment, MERCOSUR, and NAFTA, attempting to assess their impact upon Latin America’s transformation from develop mentalism, to Third World politics, to an emerging
center of democratic capitalism.

3 semester hours

POLITICAL SCIENCE 321 (PSCI/UPED 321)

Political Economy of East Asia

In recent decades, the East Asian region has often been described as a model of socioeconomic development, which newly developing regions should emulate. This course will encourage learners to explore the extent to which the East Asian paradigm of development is valid for other regions. This course will explore the cultural and historical factors contributing to the political and economic trajectories China, Korea, and Japan. Through studying East Asia’s unique sociopolitical and economic trajectory, students should be equipped to better contextualize and assess the challenges and opportunities currently facing the Peoples Republic of China, Taiwan, Hong Kong, Japan, and the Koreas.

3 semester hours

POLITICAL SCIENCE 322 (PSCI 322/PHIL 323)

Classics in Political Theory

Analysis of principles of political theories of the Ancient Greek, Roman, Medieval, and Early Modern periods. Emphasis on the thought of Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Machiavelli, Hobbes, Locke and Montesquieu. Application of these theories to contemporary political ideas and problems.

3 semester hours

POLITICAL SCIENCE 324 (PSCI 324/PHIL 324)

Recent Political Theory

Analysis of the major contemporary ideologies, their historical-philosophical backgrounds and public policy implications. Among the ideologies and belief systems considered are liberalism, conservatism, Marxism (including Leninism and Maoism), fascism, anarchism, religious fundamentalism, and feminism. The cultural expressions of these ideologies in arts and literature are also examined.

3 semester hours

POLITICAL SCIENCE 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

3 semester hours

POLITICAL SCIENCE 399

Independent Studies

This course permits the advanced political science student to undertake individual research in the area approved by the instructor. Continuous consultation with the instructor is required. Prerequisite: Permission of School Director.

1-6 semester hours

**Psychology**

**PSYCHOLOGY 103**

Introduction to Psychology

An introduction to the field of psychology, including such topics as research methods, the brain, neuronal structure and functioning, sleep and dreaming, cognitive and social development, learning, memory, intelligence, personality, psychopathology, psychotherapy, social cognition, and social influence. This course is a prerequisite of all 300-level psychology courses. PSYC 103 may be taken concurrently with 200-level courses.

3 semester hours

**PSYCHOLOGY 201**

Child Psychology

Physical, cognitive, language, personality, moral, and social development from conception to pubescence.

3 semester hours

**PSYCHOLOGY 202**

Adolescence

The development and behavior of human beings from pubescence through adulthood. Emphasis on developmental stages, adjustment issues, and effects of the social environment.

3 semester hours

**PSYCHOLOGY 303**

Personality Psychology

The structure, dynamics, and development of personality. Major personality theories – psychoanalytic, trait, behavioral, cognitive, socio-biological, humanistic/existential – and their implications for understanding both normal and deviant personality.

3 semester hours

**PSYCHOLOGY 304**

Abnormal Psychology

The study of those thoughts, feelings, and behaviors that interfere with psychologically adaptive functioning. The causes and appropriate treatments of neurosis, psychosis, personality disorders, and adjustment reactions.

3 semester hours

**PSYCHOLOGY 305**

Social Psychology

Scientific study of how people think about, influence, and relate to one another. Social cognition, persuasion, conformity and obedience, stereotyping and prejudice, aggression, prosocial behavior, and intragroup and intergroup dynamics.

3 semester hours

**PSYCHOLOGY 307**

Cognitive Psychology

Recent advances in the understanding of thought processes. Focus on attention, perception, memory, imagery, problem solving, language, intelligence, creativity, and dreaming.

3 semester hours

**PSYCHOLOGY 309**

Industrial/Organizational Psychology

Application of psychological principles to industry, business, transportation, communications, institutions, and consumer behavior.

3 semester hours

**PSYCHOLOGY 310**

Human Sexuality

Physiological and psychological components of human sexuality, and their interaction. Focus on health and social issues and on individual, gender, and cultural differences.

3 semester hours

**PSYCHOLOGY 314**

Educational Psychology

Application to the teaching-learning process of psychological concepts, principles, theory, and research results. Focus on growth and development, adjustment and personality, learning, measurement, and evaluation.

3 semester hours

**PSYCHOLOGY 315**

History of Psychology

Traces the development of modern psychology from its roots in philosophy and science. Examines such major 20th century developments as structuralism, functionalism, psychoanalysis, behaviorism, and cognitivism, as well as emerging models of the 21st century.

3 semester hours

**PSYCHOLOGY 316**

Current Topics in Psychology

Examination of one or more currently prominent topics in psychology, such as memory reconstruction, sexual orientation, emotional intelligence, brain plasticity, or hate crimes.
Psychology • Retailing

Prerequisite: Psychology 315.
3 semester hours

PSYCHOLOGY 321
Research in Psychology
Students explore and evaluate the validity of various experimental and non-experimental research strategies and gain experience collecting psychological data, in groups and individually. Foundations of statistical analysis, including both descriptive and introductory inferential statistics.
3 semester hours

PSYCHOLOGY 323
Psychological Assessment
Standardized intelligence and psychological tests and measurements and their application to educational, industrial, and clinical settings.
3 semester hours

PSYCHOLOGY 348
Psychology of Women
This course will cover various aspects of the psychology of women such as gender stereotypes and biases, gender comparisons social situations, women and work, love relationships, women and psychological disorders, and violence against women. Prerequisite: Courses: PSYC 103 and 201 or 202
3 semester hours

PSYCHOLOGY 355
Sport Psychology
A study of the psychological foundations of physical activity. An overview of the psychological and mental factors that influence and are influenced by participation and performance in sports, exercise and physical activity. Included are applications of the knowledge gained through research to everyday settings.
3 semester hours

PSYCHOLOGY 350
The Psychology of Wealth
A review of current research on the ways in which behavior is influenced by money and wealth. An overview of the cognitive, behavioral, developmental and clinical implications of money as a stimulus. A study of money-related behaviors including: attitudes, perceptions, socialization and pathologies. The development of a psychological model of economic man.
3 semester hours

PSYCHOLOGY 370
Forensic Psychology
Surveys the overall intersection of psychology and the American court system. Emphasis will be placed on issues related to clinical psychology/psychiatry in the criminal justice system and the assessment of dangerousness. Students will explore how forensic psychologists have been involved in the jury selection process. 3 semester hours

PSYCHOLOGY 380
Biological Psychology
The biological mechanisms underlying human behavior. Focus on evolution, genetics, and the anatomy and physiology of the human brain and nervous system as they affect and are affected by sensory systems, movement, waking and sleeping, homeostasis, hormones, sexual behavior, emotions, learning, memory, and language.
3 semester hours

PSYCHOLOGY 381
Drug Effects and Behavior
Fundamentals of psychopharmacological research with emphasis on human drug-taking behavior. A discussion of the various psychoactive drugs and implications of their use.
3 semester hours

PSYCHOLOGY 395
Senior Thesis in Psychology
Students work individually with their advisor to produce an integrative review or conduct empirical research on a specific topic within psychology.
3 semester hours

PSYCHOLOGY 399
Individual Study in Psychology
An opportunity to study topics not covered in regular course offerings or to carry out an individual course of instruction.
1-6 semester hours

PSYCHOLOGY 407
Psychology of Consciousness
Study of all aspects of consciousness. Topics include sleep and dreams, meditation and prayer, yoga, daydreaming, creative insights, extrasensory perception, spiritual experiences, drug-induced states, hallucinations, and the mind-body issue.
3 semester hours

Retailing

RETAILING 102
Merchandising Mathematics
A functional and realistic approach to retailing principles and operations by the application of mathematical formulas and procedures. Emphasis on income statements, pricing techniques, markup, markdown, sales volume, inventory control, merchandising terminology, and merchandising planning. Math placement test must be taken.
3 semester hours

RETAILING 180
Seminar in Professional Development
Surveys retail and related career areas, entry requirements and employment opportunities. Students are provided with opportunities to develop pertinent retailing related resumes, professional portfolios and interview techniques, as well as letters of application. Detailed study of the current job market and business ethics are also included.
3 semester hours

RETAILING 201
Retail Advertising and Fashion Promotion
Principles and methods of advertising and promotion for producers, manufacturers and retailers with emphasis on the retailers most often used media — the newspaper. Varying advertising approaches of the mass merchandiser, the prestigious department store and the specialty store are included. Additionally, students work on individual or group assignments in special events planning, visual merchandising, direct marketing, publicity, newspaper and magazine advertising. The role of the retail buyer and product developer in the advertising function in the planning and
budgeting of ads is also included.

3 semester hours

RETAILING 203
Fashion and Retail Buying I
The study of buying theory and techniques for department stores and specialty retailers. Analyzes the buying function and examines how buyers' responsibilities vary in different types of merchandising organizations. Study of the principles, procedures, and techniques practiced by merchandisers of fashion goods in determining resources to select, and assortments to buy includes private label development.

3 semester hours

RETAILING 205
Textiles I
Basic concepts of textiles dealing with fibers, yarns and methods of fabric construction. Specific laboratory assignments devoted to natural and synthetic fiber identification and testing. $50 lab fee.

3 semester hours

RETAILING 206
Textiles II
Continuation of textile concepts including the study of films, foams, laminated fabrics, fiber webs, knitted constructions, knotted fabrics, laces and flocked fabrics. In-depth study of aesthetic and functional fabric finishes with emphasis on specific needs of the clothing and home furnishings industries. Laboratory work applies industry testing standards to individual fabrics. Woven, knit, and applied fabric patterns are explored using a variety of mediums including CAD. CAM software. Students are responsible for submitting testing results and aesthetic development projects in addition to preparing sample books of commercially produced designs and functional finishes. Prerequisites: RETL 205. $50 laboratory fee.

3 semester hours

RETAILING 207
Strategies of Selling
Development of professional selling techniques necessary for efficiency and success in all phases of retailing and wholesaling. Expertise in a retail product line is developed through a product research project.

3 semester hours

RETAILING 280
Industry Internship
Paid work experience in a faculty-approved retail organization. Six week full-time on-the-job assignment combined with written research into corporate structure and marketing strategy. Holiday selling season of sophomore year. Prerequisite: 2.5 Q.R. Student must maintain 2.5 Q.R. during the internship semester. Fashion Merchandising and Retailing majors only.

3 semester hours

RETAILING 300
Mass Merchandising and Marketing
An analytical study of national and multinational mass merchandising organizations that include origin, concepts, operations, technology, and profitability. Comparison of in-store mass merchandisers and non-store catalog retailers, on-air merchandisers, and on-line marketers. Students research one in-store and one non-store mass merchandiser of their choice in depth. Students prepare a catalog, an on-air, and an e-tailing presentation using a mass market approach. Students utilize "CATALOG," "STORY-BOARD," "SHOW and SELL," and "VIRTUAL MERCHANDISING" CAD/CAM software to prepare presentations. Prerequisites: RETL 201, RETL 204, RETL 207 and RETL 213; open to juniors and seniors only.

3 semester hours

RETAILING 304
Fashion and Retail Buying II
Inventory and stock control procedures, analysis of consumer demand in the buying and marketing of fashion products. Six month budget planning of sales, goods, and promotional activities. Spreadsheets and computer applications are used to plan, analyze, and adjust retailing activities by revisions in quantities and merchandise assortments. Practice in buying from a variety of domestic and international resources. Prerequisites: RETL 102 with a grade of “C” or better and RETL 203.

3 semester hours

RETAILING 307
Surface Design I
Introduction to the business of Textile Surface Design. Course focus is on applied surface designs using natural and geometric motifs as they apply in a variety of fashion markets including infant's and children's, women's, men's, domestics and paper goods. Students research current market design and color trends. Using classic, modern, or ethnic motif students work with layout, repeat size and color ways. Students develop their own collection libraries in paper and disc formats. Students design applied patterns and alternative color ways using “DESIGN and REPEAT” and “EASY COLORING” CAD/CAM software. Students prepare portfolios of their best designs. Open to juniors and seniors only. Prerequisites: RETL 205, RETL 206, Design 103. $50.00 lab fee.

3 semester hours

RETAILING 308
Advanced Textiles
This course provides an overview of the history and importance of historical fabrics and their relevance in today's marketplace. The course includes studying the historical changes of fabrics, improvements in dyeing and weaving techniques as well as importance of designers that produce these fabrics. A portfolio of fashion is required as well as discussion and research on new ecological fibers. Oral presentations and a NYC market trip to textiles companies is required.

3 semester hours

RETAILING 313
Organizational Management
A study of the management decisions faced by the retail executive in today's marketplace. Topics include locations, retail store layout, security, the customer service mix, retail credit arrangements and their cost-benefit relationships. Human resource concerns include recruitment, personnel changes, retraining and layoffs, employee benefits and their impact on both morale and budgets. Students research in-depth one of the top international retailers for practical solutions to a profitable retail environment. Prerequisite: Retailing 201, and Marketing 305; junior and seniors majors only. May not be taken same semester as Fashion Merchandising 270.

3 semester hours

RETAILING 330
International Fashion Marketing/Product Development
An examination of international trade for textile and apparel industries. This course studies supporting agencies, foreign manufacturing, distribution, financing, transportation, tariffs and customs regulation. The student will be required to research exporting and importing a product and to prepare both a written and oral presentation. Prerequisites:
Social Sciences

SOCIAL SCIENCES C201

Introduction to the Social Sciences I

A survey of the development of the social sciences, how they were shaped by historical forces, and their role in understanding society. The emergence of economics, anthropology, sociology, psychology, and political science from social philosophy. Prerequisite: ENGL C101 or department permission. A Core Heritage Course.

3 semester hours

SOCIAL SCIENCES 207

World Regional Geography

A survey of world physical and human geographic patterns. Each world region will be analyzed in terms of its environment and resource distributions, agricultural systems and rural development, population growth and characteristics, and patterns of urbanization and industrial growth. Considerable emphasis will be placed on the non-Western world, issues of sustainable development, and the changing nature of geography. Students will be required to write one research paper on a particular world region of their choice.

3 semester hours

SOCIAL SCIENCES 300

Seminar in Social Science Methods

An introduction to the methods of research and criticism employed in history, economics, anthropology, sociology, psychology, and political science. Social Sciences majors will gain experience in both statistical and interpretative methods that will be useful for their senior thesis. PC access required. Prerequisite: Sophomore standing. Required of Social Sciences majors in the junior year.

3 semester hours

SOCIAL SCIENCES 395

Senior Thesis

Students work individually with their advisors, preferably starting in the second semester of the junior year, to research and write a thesis on a topic related to the social sciences. This topic may be the extension of an idea first developed in the Seminar on Social Science Methods. Prerequisite: SOSC 300. Required of Social Science majors in the senior year.

3 semester hours

SOCIAL SCIENCES 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

3 semester hours

SOCIAL SCIENCES 399

Independent Study

For the student who wishes to specialize in advanced projects not covered by regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of advisor and School Director.

1-6 semester hours

Sociology

SOCIOLOGY 101

Principles of Sociology


3 semester hours

SOCIOLOGY 102

Sociology of Social Problems

Analysis of major problems in modern society; existing methods for dealing with these problems.

3 semester hours

SOCIOLOGY 118

Introduction to Criminal Justice

This course is intended to introduce you to the field of criminal justice and criminology. More specifically, we will explore how the American criminal justice system interacts with society and reacts to societal issues. In turn this will help us understand how society functions in response to the criminal justice system.

3 semester hours

SOCIOLOGY 204

Marriage and the Family

Courtship, marriage patterns, social sexual adjustment. Social interaction within the family. The family and society.

3 semester hours

SOCIOLOGY 231

Cultural Anthropology

Origins and growth of culture. Pattern of culture as related to personality and social structure. Comparative cultures.

3 semester hours
Sociology • Spanish • Theatre

SOCILOGY 270 Sociology of Deviance
Specialization into deviance; social typing; deviant subcultures; deviant identity; accommodation to deviance; public and informal regulation of deviance; treatment approaches to deviance; theoretical frameworks. Implications for policy-making. Prerequisite: SOC 101
3 semester hours

SOCILOGY 299 Selected Topics in Sociology
A course with variable topic focus; dependent upon student needs and the expertise of the instructor.

SOCILOGY 310 Race and Ethnicity
Racial and ethnic stratification; causes and consequences of prejudice and discrimination; problems of assimilation and pluralism; racial and ethnic conflict in the U.S. and in other societies.
3 semester hours

SOCILOGY 311 Juvenile Delinquency
Analysis of delinquency causation, methods of treating delinquents, juvenile court procedures, interrelationship of police and youth, and problems of prevention.
3 semester hours

SOCILOGY 315 Criminology
A critical examination of the conditions under which crime and delinquency occur. Theories of crime and punishment. Treatment of offenders.
3 semester hours

SOCILOGY 348 Religion & Society
A sociological and anthropological analysis of religion as a universal social institution, with emphasis upon theories of the origins of religion, relationships of religion to other social institutions, study of selected Western and non-Western religions in their socio-cultural contexts, religion as a source of social equilibrium and conflict, types of religious movements.
3 semester hours

SOCILOGY 355 Globalization
This course examines the phenomenon of globalization as an economic, political, and cultural reality. The focus of lecture and discussion will arise through consideration of treatment of the issue by current social theorists: e.g., Roland Robertson, Peter Berger, Immanuel Wallerstein, Mike Featherstone, Thomas Friedman. Critics of globalization will also be read and considered: e.g., Lourdes Benería, John Cavanaugh, Joseph Stiglitz.
3 semester hours

SOCILOGY 399 Independent Study
For the student who wishes to specialize in advanced projects not covered by regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of advisor and School Director.
1-6 semester hours

Spanish

SPANISH 101 Elementary Spanish I
Introduction to Spanish, stressing pronunciation, aural comprehension, and basic conversation. The fundamental principles of grammar. Training in reading comprehension and writing.
3 semester hours

SPANISH 102 Elementary Spanish II
Continuation of Spanish 101. Prerequisite: SPAN 101.
3 semester hours

SPANISH 103 Intermediate Spanish I
Conversation based on the reading of modern prose texts. Drill in written and oral self-expression. A review of the principles of grammar. Prerequisite: Spanish 102 or two years of high school Spanish.
3 semester hours

SPANISH 104 Intermediate Spanish II
Continuation of Spanish 103. Prerequisite: SPAN 103 or three years of high school Spanish.
3 semester hours

SPANISH 275 Topics in Spanish Language and Literature
A reading seminar using literary works of representative authors, dramatists, poets, and others. Discussion of language problems amongst speakers of Spanish. The course may be given in Spanish only or a mix of Spanish and English, according to student needs. Prerequisite: If given in Spanish, SPAN 104.
3 semester hours

SPANISH 398 Internship
Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
3 semester hours

Theatre

THEATRE 103 Introduction to Theatre
The art of the theatre: its literature, structure, and aesthetics. Contributions of the playwright, actor, architect, director, designer, and producer are examined through lectures, presentations by visiting artists, class discussion, projects, and attendance at theatrical performances.
3 semester hours

THEATRE 233 Role Study and Characterization I
The creative processes by which an actor may construct an interpretation are studied in theory and pursued in practice with heavy emphasis upon scenes.
3 semester hours

THEATRE 234 Role Study and Characterization II
The approaches to acting of Stanislavski and Boleslavsky including principles of sense memory and affective memory are examined, discussed, and applied.
3 semester hours
World Religion

WORLD RELIGION 102
Introduction to Eastern Religions
This course offers students a comparative and historical introduction to Hinduism, Buddhism, Confucianism, and Taoism. Attention is given to primary texts and rituals, historical and doctrinal development, sociocultural setting and political impact.
3 semester hours

WORLD RELIGION 103
Introduction to Western Religions
This course offers students a comparative and historical introduction to Judaism, Christianity, and Islam. Attention is given to primary texts and rituals, historical and doctrinal development, sociocultural setting and political impact.
3 semester hours

WORLD RELIGION 204
Hinduism
This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Hinduism. Special attention is given to Hindu mythology, the Upanishads, and the Bhagavad-Gita.
3 semester hours

WORLD RELIGION 205
Buddhism
This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Buddhism. Special attention is given to Theravada, Mahayana, and Tantric texts.
3 semester hours

WORLD RELIGION 207
Judaism
This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Judaism. Special attention is given to the Hebrew Bible (Tanakh) and the Holocaust. Differences among contemporary forms of Judaism (Orthodox, Reform, Conservative, and Reconstructionist) are studied in some detail.
3 semester hours

WORLD RELIGION 208
Christianity
This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Christianity. Special attention is given to the New Testament.
3 semester hours

WORLD RELIGION 210
Unification Philosophy
This course intends to familiarize students with the unique nature of Unification Philosophy and invite reflection on the ways in which it relates to the Western philosophical tradition. Students will review key areas of inquiry in Western philosophy as well as practical applications of such inquiry. In the process, learners will examine the ways in which these areas of inquiry are addressed in Unification Thought texts and supporting literature. It is expected that the general framework and method of Unification Philosophy, with whatever its strengths and limitations, will become clear through the learning process and encourage speculation and critical discourse on its potential for further development.
3 semester hours

WORLD RELIGION 216/PHILOSOPHY 216
Philosophy of World Religions
A comparison and analysis of the philosophical foundations of some of the world's major religions. Among the religions studied are: Judaism, Christianity, Islam, Hinduism, Buddhism, and Confucianism.
3 semester hours

WORLD RELIGION 221
Religion and Fiction
An introduction to religion and literature, this course will examine ways in which works of fiction (both secular and more overtly religious narratives) address issues that are intrinsically religious, such as: the relation between human spirit and human nature, the presence of evil and suffering, the need for meaning and personal and communal fulfillment.
3 semester hours

WORLD RELIGION 229
Confucianism
An examination of the major figures, texts, and ideas of Confucianism. Attention is given to social setting and political influence.
3 semester hours

WORLD RELIGION 230
Taoism
An examination of the major figures, texts, and ideas of Taoism. Attention is given to the dialogue with Confucianism.
3 semester hours

WORLD RELIGION 275
Religion, Conflict, and Mediation
This course examines economic, political, and cultural aspects of religious conflict, and proposes a theory for conflict mediation that entails recognizing the key role played by religious institutions and "cultural rationality" within society. Models of conflict mediation (Augsberger's Conflict Mediation Across Cultures; Avruch's Culture & Conflict Resolution; Said's Peace and Conflict Resolution in Islam; Shrock-Shenk, Making Peace with Conflict: Practical Skills for Conflict Transformation) are studied. These theories are practiced in case studies and class models. The relationship of interreligious and conflict mediation is considered.
3 semester hours

WORLD RELIGION 278
Religion, Peace, and War
This course will explore the contributions of several world religions (typically a combination of Western and Eastern religions; e.g. Buddhism and Islam; Judaism and Hinduism) to issues of peace and war. Topics may include just war theory, pacifism, non-violent forms of resistance, Jihad, and ahimsa. Topics will also be situated within historically significant experiences of the various religions (e.g. consideration of Buddhism in Sri Lanka; the Israeli/Palestinian question).
3 semester hours

WORLD RELIGION 288
Internet Religion
Prerequisite: WREL 102 or 103, at least one other WREL course, and Instructor's permission. This course examines the impact of the Internet on classical religious forms (ideas, practices). In a lab component, we explore whether religious ideas and practices undergo mutation when they are expressed virtually. We set the stage for this topic by examining religions and the Silk Road, which sets forth the dynamic nature of religious change in the ancient world. Topics include: the nature of change within religious communities; social dimensions of belief and faith-oriented practice; solitary and virtual modes of religious experience; human nature and Internet; addiction to virtuality; connectivity, self-expression, and orthodoxy.
3 semester hours
World Religion

WORLD RELIGION 301
World Scriptures
A Study of primary source readings in world religious literature. Attention is also given to critical research methods. In the course we will read from the Upanishads, Bhagavad-Gita, Dhammapada, Koran, Tanakh, New Testament, and the Analects.
3 semester hours

WORLD RELIGION 305*
Comparative Religious Ethics
A comparative study of Hindu, Buddhist, Christian, and Islamic accounts of human rights, ecology, family, violence, and economy. The possibility of developing a universal ethic is considered. Topics vary from semester to semester.
3 semester hours

WORLD RELIGION 345/ENGLISH 345
Calvinism and American Civilization
This course studies the extent of Calvinist cultural penetration of American civilization and examines the specific literary evidence linking seventeenth century Puritanism the primary vehicle of Calvinist thought in America and later manifestations of Calvinism in eighteenth and nineteenth century culture. All reading in the course will be in works of intrinsic literary merit.
3 semester hours

WORLD RELIGION 348/SOCIOLOGY 348
Religion and Society
A sociological and anthropological analysis of religion as a universal social institution, with emphasis upon theories of the origins of religion, relationships of religion to other social institutions, study of selected Western and non-Western religions in their socio-cultural contexts, religion as a source of social equilibrium and conflict, and types of religious movements.
3 semester hours

WORLD RELIGION 353
The Sermon in American Literature and Civilization
This course is intended to provide a basic familiarity with one of the first and still most significant genres in popular American literature. A study of the origins and formal traditions of the sermon in various American religious cultures will enable students to experience American civilization from a most intimate and yet social perspective, that of communal worship.
3 semester hours

WORLD RELIGION 254
Religion and Science
Do science and religion belong to completely separate realms? Can they benefit each other? Will religious conflicts fade as scientific reason sweeps away the cobwebs of bias and superstition? Or will science run out of control without the guidance of religiously inspired ethics? In grappling with such controversial questions, this course examines historical and modern approaches to the relationship between science and religion. Based on a typology which classifies such approaches as tending towards “conflict,” “independence,” “dialogue,” and “integration,” we will examine the work of both religious and scientific thinkers who exemplify these trends or challenge the status quo.
3 semester hours

WORLD RELIGION 375
Religion and Genocide
This course examines religion and politics in the Middle East. Histories of Judaism, Christianity, and Islam, their shared and opposing religious and social ideas, are studied. Particular attention is paid to the state of Israel and the question of a Palestinian state. Topics also include the Six Day War, issues of sovereignty and land, terrorism, and geopolitics. Instructor's permission may be required for this course.

WORLD RELIGION 374
Religion and Politics in the Middle East
This course examines the intersection of religion and politics in the current landscape of the societies of the Middle East. While the West has emphasized separation of church and state, numerous nations and political parties in the Middle East emphasize the relationship between the two and the guiding role that religion is meant to play in political decision making. This course also examines the impact that secularization has had upon religion in the Middle East and it notes how this has played a key role in the development of Islamic militarism and the strengthening of some of the religiously based political parties of the region. Instructor's permission may be required for this course.

WORLD RELIGION 395
Senior Thesis Seminar
Instructor's permission may be required for this course. Prerequisites: Senior standing, world religions major. Introduction to and preparation of a senior research thesis. May be taken for 6 semester hours.